

**HPSII Enterprises
Bradford Mine
Master Mine Plan
Bradford County, Florida**

Prepared for:

HPSII Enterprises

13055 SW 175th Avenue
Brooker, FL 32622

Prepared by:



3919 Riga Blvd
Tampa, Florida 33619
Project No. 20163103.001A

April 2016

Copyright 2016 Kleinfelder
All Rights Reserved

**HPSII Enterprises
Bradford Mine
Master Mine Plan
Bradford County, Florida**

Report Prepared for:

**HPSII Enterprises, LLC
13055 SW 175th Avenue
Brooker, FL 32622**

REPORT CERTIFICATION

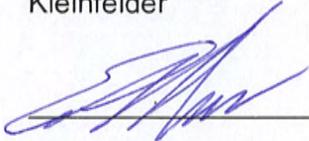
This report, the data collection, and the final results have been performed under the supervision and reviewed by the persons named below. This report shall not be reproduced in full or in part without the written consent of Kleinfelder.

Date 4/21/16

Signature 

Adam Peterson
Project Manager
Kleinfelder

Date 4/21/16

Signature 

Ed Murawski
Program Manager
Kleinfelder

**HPSII Enterprises
Bradford Mine
Master Mine Plan
Bradford County, Florida**

TABLE OF CONTENTS

1.0	INTRODUCTION	7
1.1	Owner.....	8
1.2	Applicant.....	8
1.3	Engineer.....	8
1.4	Location and Legal Description.....	9
1.5	Adjacent Owners	9
2.0	PRE-MINING CONDITIONS	9
2.1	Geology	9
2.2	Groundwater.....	9
2.3	Topography and Watershed Location	10
2.4	Soil Classifications.....	10
2.5	Floodplain.....	13
2.6	Land Use Characteristics.....	13
2.7	Protected Fauna	18
2.8	Protected Flora	24
2.9	Historical/Archaeological Survey.....	27
2.10	Location of Existing Utilities	27
2.11	Existing Wells	28
2.12	State and County Road Network.....	28
2.13	Railroads	28
2.14	Sensitive Site Receptors.....	28
3.0	MINING AND PROCESSING PLAN	29
3.1	Mine Limits, Phasing and Schedule	29
3.2	Mining Process (Excavation Stage)	29
3.3	Material Transport	30
3.4	Facilities	30
3.5	Phosphate Processing or Beneficiation.....	30
3.6	Water Use	31
3.7	Erosion and Sediment Control.....	32
3.8	Stormwater Management.....	32
3.9	Phosphate Transport	33
4.0	Operations Monitoring Plan.....	33
4.1	Monitoring Plan.....	33
	4.1.1 Visual Emissions.....	33
	4.1.2 Surface Water.....	33
	4.1.3 Groundwater	33
	4.1.4 Rainfall.....	33
4.2	Schedule	34
4.3	Reporting.....	34
5.0	Conceptual Reclamation plan	34
5.1	Sand/Clay/Overburden Process.....	34
5.2	Post-Mining Surface Contouring	35

5.4	Post-Mining Surface Water Features	35
5.5	Post-Mining Groundwater Features	35
5.6	Post-Mining Land Use and Vegetation.....	36
5.7	Wetland Reclamation	37
5.8	Management and Monitoring	38
5.9	Release Criteria.....	38
6.0	REFERENCES	40

FIGURES

Figure 1	Location Map
Figure 2	Aerial Imagery
Figure 3	USGS Quadrangle Map (1:24,000)
Figure 4	Regional USGS Quadrangle Map (1:100,000)
Figure 5	Watershed Boundaries
Figure 6	Soils Map
Figure 7	Floodplains
Figure 8A	Land Use Map - Key
Figure 8B	Land Use Map – View 1
Figure 8C	Land Use Map – View 2
Figure 8D	Land Use Map – View 3
Figure 8E	Land Use Map – View 4
Figure 8F	Land Use Map – View 5
Figure 8G	Land Use Map – View 6
Figure 8H	Land Use Map – View 7
Figure 8I	Land Use Map – View 8
Figure 8J	Land Use Map – View 9
Figure 8K	Land Use Map – View 10
Figure 8L	Land Use Map – View 11
Figure 8M	Land Use Map – View 12
Figure 8N	Land Use Map – View 13
Figure 8O	Land Use Map – View 14
Figure 8P	Land Use Map – View 15
Figure 8Q	Land Use Map – View 16
Figure 8R	Land Use Map – View 17
Figure 8S	Land Use Map – View 18
Figure 9A	Wetland/OSW Location Map - Key
Figure 9B	Wetland/OSW Location Map – View 1
Figure 9C	Wetland/OSW Location Map – View 2
Figure 9D	Wetland/OSW Location Map – View 3
Figure 9E	Wetland/OSW Location Map – View 4
Figure 9F	Wetland/OSW Location Map – View 5
Figure 9G	Wetland/OSW Location Map – View 6
Figure 9H	Wetland/OSW Location Map – View 7
Figure 9I	Wetland/OSW Location Map – View 8
Figure 9J	Wetland/OSW Location Map – View 9
Figure 9K	Wetland/OSW Location Map – View 10
Figure 9L	Wetland/OSW Location Map – View 11
Figure 9M	Wetland/OSW Location Map – View 12
Figure 9N	Wetland/OSW Location Map – View 13

FIGURES (CONTINUED)

Figure	9O	Wetland/OSW Location Map – View 14
Figure	9P	Wetland/OSW Location Map – View 15
Figure	9Q	Wetland/OSW Location Map – View 16
Figure	9R	Wetland/OSW Location Map – View 17
Figure	9S	Wetland/OSW Location Map – View 18
Figure	10	Documented Listed Species Occurrences
Figure	11	Existing Wells
Figure	12A	Conceptual Mine Plan - Key
Figure	12B	Conceptual Mine Plan - View 1
Figure	12C	Conceptual Mine Plan – View 2
Figure	12D	Conceptual Mine Plan – View 3
Figure	12E	Conceptual Mine Plan – View 4
Figure	12F	Conceptual Mine Plan – View 5
Figure	12G	Conceptual Mine Plan - View 6
Figure	12H	Conceptual Mine Plan – View 7
Figure	12I	Conceptual Mine Plan – View 8
Figure	12J	Conceptual Mine Plan – View 9
Figure	12K	Conceptual Mine Plan – View 10
Figure	12L	Conceptual Mine Plan - View 11
Figure	12M	Conceptual Mine Plan – View 12
Figure	12N	Conceptual Mine Plan – View 13
Figure	12O	Conceptual Mine Plan – View 14
Figure	12P	Conceptual Mine Plan – View 15
Figure	12Q	Conceptual Mine Plan - View 16
Figure	12R	Conceptual Mine Plan – View 17
Figure	12S	Conceptual Mine Plan – View 18
Figure	12T	Ditch and Berm Detail
Figure	13	Points of Discharge
Figure	14	Monitoring Plan
Figure	15A	Conceptual Reclamation Plan - Key
Figure	15B	Conceptual Reclamation Plan - View 1
Figure	15C	Conceptual Reclamation Plan – View 2
Figure	15D	Conceptual Reclamation Plan – View 3
Figure	15E	Conceptual Reclamation Plan – View 4
Figure	15F	Conceptual Reclamation Plan – View 5
Figure	15G	Conceptual Reclamation Plan - View 6
Figure	15H	Conceptual Reclamation Plan – View 7
Figure	15I	Conceptual Reclamation Plan – View 8
Figure	15J	Conceptual Reclamation Plan – View 9
Figure	15K	Conceptual Reclamation Plan – View 10
Figure	15L	Conceptual Reclamation Plan - View 11
Figure	15M	Conceptual Reclamation Plan – View 12
Figure	15N	Conceptual Reclamation Plan – View 13
Figure	15O	Conceptual Reclamation Plan – View 14
Figure	15P	Conceptual Reclamation Plan – View 15
Figure	15Q	Conceptual Reclamation Plan - View 16
Figure	15R	Conceptual Reclamation Plan – View 17
Figure	15S	Conceptual Reclamation Plan – View 18

TABLES

- Table 1 Protected Fauna with Potential to Occur in the Mine
- Table 2 Protected Flora Species with Potential to Occur in the Mine

EXHIBITS

- Exhibit A Union County Mine Map
- Exhibit B Project Parcel ID#'s and Legal Descriptions
- Exhibit C Adjacent Property Owners Map
- Exhibit D Florida Black Bear Map
- Exhibit E Avian Species Map
- Exhibit F Preliminary Cultural Resources Report
- Exhibit G Sensitive Receptors

HPSII Enterprises Bradford Mine Mining Master Plan Bradford County, Florida

1.0 INTRODUCTION

This document constitutes a Mining Master Plan (MMP) for the proposed HPSII Enterprises, LLC (HPS) Bradford County Mine (Project) (**Figures 1 and 2**). Pursuant to Bradford County Land Development Regulations (LDR) Section 14.6, paragraphs 1-2, HPS understands that the initial Bradford County (County) permitting step for the project is the submittal of a MMP to the Board of County Commissioners (BOCC) for review and approval via a BOCC resolution. Subsequent to MMP review and approval, HPS would then apply to the BOCC for an Operating Permit pursuant to LDR Article 13.

During the BOCC review of this MMP, it's important to note that HPS is undergoing various stages of concurrent permitting efforts with regional, State, and federal agencies for the project; namely, the Suwanee River Water Management District (District), the Florida Department of Environmental Protection (Department), and the United States Army Corps of Engineers (Corps). This permitting process is ongoing for both the project and also the adjacent HPS Union County Mine project (**Exhibit A**). As additional information is gathered during this multi-agency permitting process, the MMP detailed herein may be revised and updated based on agency comments. As such, this initial MMP is intended to provide the BOCC with a general understanding of the project's proposed operations and reclamation processes and is submitted with the understanding that a revised MMP will be finalized at a later date.

LDR Section 14.6 (1.) details the County's minimum requirements for the MMP, which are listed as follows:

- a. *Describe the boundaries of the areas of proposed mining;*
- b. *Describe the location of existing or proposed processing facilities, highways and railroads;*
- c. *Provide a topographic map of the area and its relationship to watersheds, drainage ways, floodways, streams, rivers and lakes;*
- d. *Describe the mining process to be conducted; and*
- e. *Describe the reclamation process to be conducted after mining, including the delineation of areas to be restored.*

This MMP will address each of these LDR criteria as applicable to the project. Additionally, HPS has reviewed the MMP (or similarly-named document) criteria required by other Counties throughout Florida to guide the structure and content of this MMP. With the aim of providing a more comprehensive description of the proposed project, HPS has included the following information in this MMP:

1. General: Ownership, applicant, and project engineer information; location and legal description of the project area; adjacent property owner identification.

2. Pre-Mining Conditions: Topographic maps, soil classifications, and floodplain limits; descriptions of relevant land use types including wetlands and other surface waters; protected flora and fauna species, and historical/archaeological sites; location of relevant existing utilities, wells, State and county road network, and railroads.
3. Mine Plan: Information on proposed mining process, limits of mining, mining unit locations, mining sequence and schedule, plant facilities, flood control features, discharge points, water use plan, and inspection plan.
4. Operations Monitoring Plan: Proposed monitoring plans for air, surface and groundwater, and precipitation; proposed sampling and reporting schedules.
5. Conceptual Reclamation Plan: Details on the sand/clay/overburden process, surface contouring, reclamation sequence and schedule, upland reclamation, wetland reclamation, management and monitoring, and release criteria.

1.1 Owner

The ownership of the project is comprised of the following seven entities that own parcels within the 5,352.62 acre project area:

1. Hazen Family Partnership, Ltd.
2. Hazen Family Partnership No. 2, Ltd.
3. Triple D Cattle, LLC
4. Jack E. and Clara T. Hazen
5. New River Farms, LLC
6. New River Farms Properties, Inc.
7. Harold and Ruth Davis Trust

1.2 Applicant

The applicant is HPSII Enterprises, LLC. All correspondence should be addressed to:

HPSII Enterprises, LLC
Mr. Jack Hazen, Managing Partner
13055 SW 175th Avenue
Brooker, Florida 32622

1.3 Engineer

The project engineer is Kleinfelder. All correspondence should be addressed to:

Kleinfelder
Edward Murawski, Project Manager
3919 Riga Boulevard
Tampa, Florida 33619

1.4 Location and Legal Description

The project is located due north (< 1 mile) of Brooker, Florida in Sections 25 and 36, Township 6 South, Range 19 East; Sections 19, 20, 29-32, Township 6 South, Range 20 East; Sections 1 and 12, Township 7 South, Range 19 East; and Sections 5-8, Township 7 South, Range 20 East in Bradford County, Florida. The location of the Mine is depicted on **Figures 1 and 2** and the associated legal descriptions are included as **Exhibit B**.

1.5 Adjacent Owners

A map depicting the entities that own property located adjacent to the project is included as **Exhibit C**.

2.0 PRE-MINING CONDITIONS

Kleinfelder is in the process of gathering data from a variety of resources to describe the pre-mining characteristics of the project. The following descriptions are a summary of the preliminary findings and may be revised and updated during the course of the permitting process.

2.1 Geology

The Project Area lies within Bradford County, Florida (**Figure 1**) which is located within the Northern Highlands physiographic province (White 1970). This province has been generally characterized as an upland area (elevation greater 75ft msl) overlain by clay sediment of the Hawthorn group. The Trail Ridge physiographic province lies to the east of the project areas encompassing a small strip of Bradford County and encompassing portions of Clay County. The Western Valley physiographic region lies to west in adjacent Alachua County. The Trail Ridge physiographic province is characterized by thick sand deposits over the clay rich Hawthorn. The Western Valley physiographic province is characterized by a lower topography with a thin sandy cover over karstic limestone. The thick clays of the Northern Highlands physiographic unit results in low permeability and inhibits recharge to the underlying aquifers of the area resulting in local surface water run-off.

2.2 Groundwater

Three aquifer systems occur in the project and include the surficial unconfined aquifer, the intermediate aquifer system, and the Floridan aquifer system. The surficial aquifer system is comprised of sands and limestone layers of the upper part of the Hawthorn Group. It averages approximately 40 ft. in depth and the upper surface is considered the water table. The water table fluctuates based on precipitation and generally conforms to the land surface. Typical depth to the water table is 10 ft below land surface or less. Recharge to the surficial aquifer system is by rainfall and to a lesser degree upward leakage from deeper aquifers. (Rupert 1987 A, B).

The intermediate aquifer consists of sand and limestone layers within the Hawthorn Group. These layers are water-bearing and generally confined by the low permeability clays laying above this aquifer resulting in artesian conditions. Water yield from this aquifer varies based on thickness of sand and porosity of limestone layers. Recharge is primarily from the seepage from the surficial aquifer and upward seepage of the Floridan aquifer.

The Floridan aquifer is comprised of Eocene and Oligocene age porous limestone. This includes the Avon Park formation, the Ocala group, and the Suwannee Limestone (Rupert 1987 A, B). This aquifer is several hundred feet thick. Depth to the Floridan varies from 75ft to 300ft within the project area and is confined and under artesian conditions. The potentiometric surface of the Floridan aquifer system ranges from 50ft to 60ft above msl within the project area.

2.3 Topography and Watershed Location

Based on a review of the USGS quadrangles (**Figures 3 and 4**), the topography of the project ranges from approximately 50ft to 150ft NGVD. Broadly, the topography of the project area is rolling with higher elevations associated with hills and ridges interspersed with lower elevations in conjunction with rivers, streams, and wetlands. The dominant lowland feature is the New River system and its associated unnamed tributaries that traverse the northern project limits along the Bradford County boundary.

The New River flows southwest into the Santa Fe River, and the entirety of the project is located within the Suwannee River Water Management District's (District) Upper Santa Fe River Watershed Basin along with portions of eight watershed sub-basins (**Figure 5**). The District has completed a Minimum Flows and Levels (MFL) evaluation of the Upper Santa Fe River Basin (Water Resource Associates 2007). This evaluation set minimum flows for all surface water courses within the basin as well as minimum groundwater levels.

Man-made alterations to the topographic landscape include several railways, elevated roadways, and ditches. Altered topography associated with ditches is evident throughout the central and southern portions of the project, and appear to connect various wetland systems with the tributaries that flow northward to the New River. Information on the location of railways and roads are discussed in Sections 2.12 and 2.13. Additional topographic information (1 ft. contour intervals) is currently being gathered and will be utilized to refine mine planning, hydrologic analysis, and reclamation.

2.4 Soil Classifications

A review of National Resource Conservation Service (NRCS) soil surveys for Bradford County (USDA 1991) identified the following 26 Bradford County soil types within the project area (**Figure 6**). Soil types designated with an asterisk below denote those that meet hydric soil criteria, or have the potential to contain hydric inclusions.

2-Albany fine sand (0 to 5 percent slopes) is typically found in marine terraces and upland flats. The natural drainage for this soil types is somewhat poor. Slope range is 0 to 8 percent.

*3-Ocilla fine sand is a very deep, somewhat poorly drained moderately permeable soil formed in sandy and loamy marine sediments. These soils are on low uplands and stream terraces. Slopes range from 0 to 5 percent.

*4-Mascotte sand is a very deep, poorly to very poorly drained, moderately slowly permeable soil on areas of flats, depressions, and on low stream terraces of the lower Coastal Plain. Slopes range from 0 to 2 percent.

*6-Plummer-Plummer wet, sands. These nearly level, poorly drained soils generally are on broad flats, but the wet Plummer soil is in slightly lower areas or drainage ways. The soils occur in a regular repeating pattern on the landscape. Excess water ponds in lower areas during the rainy season and for short periods after heavy, unseasonal rainfall. Individual areas are irregularly shaped or elongated and range from 2 to more than 500 acres in size. Slopes are smooth to concave and range from 0 to 2 percent.

*7-Surrency and Pantego soils, depressional. These nearly level, very poorly drained soils are in depressions. They do not occur in a regular repeating pattern on the landscape. Individual areas are circular, irregular shaped, or elongated and range from 2 to more than 500 acres in size. Slopes are smooth or slightly concave.

*8-Surrency and Pantego soils, frequently flooded. These are nearly level, very poorly drained soils found in floodplains and along various creeks and rivers throughout the county. They do not occur in a regular repeating pattern on the landscape. Some areas are isolated by meandering stream channels. Individual areas are irregularly shaped or elongated and range from 5 to more than 100 acres in size.

*9-Starke mucky fine sand, frequently flooded is found in depressions on marine terrace of the coastal plain and consists of sandy and loamy marine deposits. Natural drainage is very poor and is frequently ponded. A seasonal zone of water saturation is present at the surface from January to October.

*10-Osier sand is very deep, poorly drained, rapidly permeable soils found on floodplains or low stream terraces. Slopes range from 0 to 2 percent.

*11-Allanton loamy sand is found in depressions on marine terraces of the coastal plain and consists of sandy marine deposits. Natural drainage is very poor and is frequently ponded. A seasonal zone of water saturation is at 6 inches from June to October.

*12-Sapelo sand. This nearly level, poorly drained soil is found within flatwoods. Individual areas are irregular in shape and range from 3 to more than 400 acres in size. Slopes are smooth and range from 0 to 2 percent.

*13-Hurricane fine sand, (0 to 5 percent slopes) is found on rises on marine terrace of the coastal plain and consists of sandy marine deposits. Natural drainage is somewhat poor and the soil type is typically associated with Longleaf Pine and Oak ecological communities.

*15-Pottsburg sand. This nearly level, poorly drained soil is typically found within flatwoods. Individual areas are irregularly shaped and range from 5 to 250 acres in size. Slopes are smooth and range from 0 to 2 percent.

16-Foxworth fine sand, (0 to 5 percent slopes) consists of very deep, moderately well to somewhat excessively drained, rapid to very rapid permeable soils on broad uplands and side slopes. Slopes range from 0 to 25 percent.

17-Blanton fine sand (0 to 5 percent slopes) consists of very deep, somewhat excessively drained to moderately well drained, moderately to slowly permeable soils on uplands and stream terraces in the Coastal Plain. They formed in sandy and loamy marine or eolian deposits. Slopes range from 0 to 45 percent.

18-Lakeland sand (0 to 5 percent slopes) consists of very deep, excessively drained, rapid to very rapidly permeable soils on uplands. Slopes are dominantly from 0 to 12 percent but can range to 85 percent in dissected areas.

*19-Leon sand. This nearly level, poorly drained soil is in broad areas within flatwoods. Individual areas are irregularly shaped and range from 2 to more than 250 acres in size. Slopes are smooth and range from 0 to 2 percent.

*20-Grifton and Elloree soils, frequently flooded. These nearly level, poorly drained soils are on floodplains along the New River and other major drainage ways throughout the county. They do not occur in a regular repeating pattern on the landscape. Some areas are isolated by meandering stream channels. Slopes are smooth to concave and range from 0 to 2 percent.

*21-Beaches (1 to 5 percent slopes) consist of bands or stripes of rapidly permeable, sandy soil material around the perimeter of freshwater lakes. The beaches vary in size and drainage from year to year because the water level in the lakes rises and falls over a period of several years. Individual areas range from less than 100 feet to more than 500 feet in width at the lowest water level. During periods of elevated water levels, which can last from several weeks to 20 or more months, most areas are entirely covered with several inches to several feet of water.

*22-Chipleigh fine sand (0 to 5 percent slopes) This nearly level to gently sloping, somewhat poorly drained soil is on low knolls and ridges in flatwoods and on the toe of slopes in uplands. Individual areas are irregularly shaped or elongated and range from 3 to more than 20 acres in size. Slopes are smooth or slightly convex.

*23-Pelham-Pelham wet, fine sand. These nearly level, poorly drained soils generally are in broad areas in flatwoods. The soils occur in a regular repeating pattern on the landscape. Excess water ponds in the low areas during the rainy season and for short periods after heavy rainfall. Slopes are smooth or slightly concave and range from 0 to 2 percent.

*24-Starke mucky fine sand, depressional. This nearly level, very poorly drained soil is in depressions in flatwoods, Individual areas are circular, irregularly shaped, or elongated and range from 2 to 15 acres in size. Slopes are smooth to concave and range from 0 to 2 percent.

*25-Fluvaquents-Ousley association, occasionally flooded. These nearly level, poorly drained and somewhat poorly drained soils are on the floodplains along the Santa Fe River, the New River and other major drainage ways throughout the county. The soils occur in regular repeating pattern on the landscape. Some areas are isolated by meandering stream channels. Individual areas are long and narrow or broad and irregularly shaped and range from 10 to more than 500 acres in size. Slopes are smooth to concave or are undulating in dissected areas and range from 0 to 2 percent.

28-Arents, moderately wet, 0 to 5 percent slopes. These nearly level to gently sloping soils are in areas that have been reworked or filled during earthmoving activities. The soil material in these areas is used as fill in shallow depressions, swamps, and other low areas. The soils are mainly in shallow landfills, on elevated building sites, on airstrips, and adjacent to bodies of water. Individual areas are irregular shaped or rectangular and range from 1 to more than 100 acres in size.

*29-Dorovan muck, frequently flooded. This nearly level, very poorly drained, organic soil is on floodplains and in drainage ways. Individual areas are narrow and elongated or broad and irregularly shaped. Slopes are smooth and range from 0 to 2 percent.

*35-Wampee loamy fine sand, 5 to 12 percent slopes. This moderately sloping to strongly sloping, somewhat poorly drained soil is in low upland areas adjacent to poorly defined drainage ways or floodplains along streams. Individual areas are long and narrow or broad and irregularly shaped and range from 5 to more than 150 acres in size. Slopes are smooth to convex.

39-Blanton fine sand (0 to 5 percent slopes) consists of very deep, somewhat excessively drained to moderately well drained, moderately to slowly permeable soils on uplands and stream terraces in the Coastal Plain. They formed in sandy and loamy marine or eolian deposits. Slopes range from 5 to 12 percent.

2.5 Floodplain

Federal Emergency Management Agency (FEMA) resources were evaluated for floodplain occurrences within the project area (**Figure 7**). Mapped floodplains are generally associated with low lying areas, depressions and drainage features located throughout the project area. Per FEMA data, approximately 50% of the project area is within Flood Zone A and is thus subject to a 1-percent-annual-chance flood event. The Zone A portions of the project are primarily associated with the northern portion that lies within the New River floodplain, along with areas adjacent to tributary streams extending southward, The remainder of the project (~50%) is within Zone X and is subject to minimal risk outside the 1-percent and 0.2-percent-annual-chance floodplains.

2.6 Land Use Characteristics

Kleinfelder has mapped the preliminary wetland and upland vegetative communities within the project. The land use types were classified based on the State of Florida Department of Transportation's Florida Land Use, Cover and Forms Classification System (FLUCFCS 1999). FLUCFCS mapping was conducted using a combination of the field review and desktop aerial photograph interpretation of vegetative signatures. Note that all wetland and other surface water boundaries are approximate and pending verification by the Department and Corps.

Figures 8A to 8S depict the location of each land use classification for the project, with approximate acreages and percentages summarized below.

FLUCFCS Code - Land Use	Acres	Percentage of Land Use Within Mine
110 Residential, Low Density	65.26	1.22
211 Improved Pasture	2121.90	39.64
213 Woodland Pasture	19.01	0.36
214 Row Crops	447.71	8.36
232 Poultry Feeding Operations	12.03	0.22
411 Pine Flatwoods	92.17	1.72
420 Upland Hardwood Forests	10.75	0.20
434 Hardwood – Coniferous Mixed	219.30	4.10
441 Coniferous Plantations	168.52	3.15
442 Hardwood Plantations	4.80	0.09
513 Ditches	8.43	0.16
514 Cattle Ponds	9.01	0.17
524 Lakes less than 10 acres which are dominant features	6.83	0.13
534 Reservoirs less than 10 acres which are dominant features	1.50	0.03
610 Wetland Hardwood Forests	764.64	14.29
613 Gum Swamps	4.44	0.08
621 Cypress	1.81	0.03
630 Wetland Forested Mixed	1206.56	22.54
640 Vegetated Non-Forested Wetlands	171.41	3.20
641 Freshwater Marshes	3.45	0.06
643 Wet Prairies	9.47	0.18
812 Railroads	191	0.04
8145 Roads – Graded and Drained	1.15	0.02
832 Electrical Power Transmission Lines	0.56	0.01
TOTALS	5,352.62	100.00

Uplands

The upland communities identified within the project totaled 3,190.84 acres and consisted of 13 separate upland land use classifications. The most common land use types was Improved Pasture, which consisted primarily of actively-grazed cattle lands at 39.64% of the project. Row Crops (8.36%), Hardwood-Coniferous Mixed (4.10%), and Coniferous Plantations (3.15%) were also described at >2% of the project area.

Upland Land Cover Descriptions

Residential, Low Density (110) are described by FLUCFCS as areas containing less than two dwelling units per acre.

Improved Pasture (211) areas are defined by FLUCFCS as grazing lands that have been cleared, tilled, and reseeded with pasture grasses and improved periodically with additional clearing and fertilization. Per FLUCFCS, improved pastures can also include scattered upland tree hammocks, cow trails, feeding stations, and farmstead/barn structures as a portion of the classification. Improved pastures composed over a third (2,120.90 acres; 39.64%) of the project. The majority of the improved pastures were observed to be active cattle grazing operations dominated by pasture forage including bahiagrass (*Paspalum notatum*) and Bermuda grass (*Cynodon dactylon*).

FLUCFCS defines Woodland Pasture (213) areas as upland forested lands located within grazing pastures that are typically utilized by livestock for shade. Woodland pastures were observed scattered within the cattle pastures of the project and consisted primarily of live oak (*Quercus virginiana*) hammocks.

Row Crops (214) areas are described by FLUCFCS as agricultural areas where the planting rows remain well-defined post-harvest. Lands classified as Row Crops were primarily identified within three large (~140 acres each) irrigated fields located within the central portion of the project area.

Poultry Feeding Operations (232) areas are specialized chicken production areas. The project contained two separate Poultry Feeding Operations that consisted of chicken houses and associated structures.

Pine Flatwoods (411) are described by FLUCFCS as natural pine areas dominated by slash pine (*Pinus elliotti*), longleaf pine (*Pinus palustris*), or less commonly pond pine (*Pinus serotina*). The project area contained Pine Flatwoods that were a mixture of slash pine, longleaf pine, and loblolly pine (*Pinus taeda*).

Upland Hardwood Forests (420) are defined by FLUCFCS as forested areas with a 66% or greater dominance by upland hardwood canopy species. Upland Hardwood Forest stands were observed within the project and contained dense canopies of a diversity of tree species including live oak, laurel oak (*Quercus laurifolia*), red bay (*Persea borbonia*), pignut hickory (*Carya glabra*), water oak (*Quercus nigra*), slash pine, and southern magnolia (*Magnolia grandiflora*). The shrub and herbaceous layers were generally less dense (20-30% cover) and included shiny blueberry (*Vaccinium myrsinites*), saw palmetto (*Serenoa repens*), American beautyberry (*Callicarpa americana*), and bracken fern (*Pteridium aquilinum*).

Hardwood – Coniferous Mixed (434) are defined as upland forested areas where neither upland conifers nor upland hardwoods have a 66% or greater dominance. Hardwood-Coniferous Mixed forests were noted within the project and totaled 219.30 acres (4.10%). In particular, these areas were noted adjacent to portions of the New River wetland corridor that traversed through the northern portion of the project.

Typical canopy species observed included a dense mixture of laurel oak, slash pine, live oak, loblolly pine, pignut hickory, American holly (*Ilex opaca*), southern magnolia, red maple (*Acer rubrum*), and sweetgum (*Liquidambar styraciflua*). The shrub and herbaceous strata typically included saw palmetto, American beautyberry, blackberry, greenbrier (*Smilax* spp.), bracken fern, and slender woodoats (*Chasmanthium laxum*).

FLUCFCS defines Coniferous Plantations (441) as upland bedded and planted pine forests generated by seeding or stock, characterized by dense monoculture stands of pines that are planted in furrowed linear rows. Typically no variation in tree age or height is evident within a particular tract of planted pine. Within the project, Coniferous Plantation areas totaled 168.52 acres (3.15%) and were composed of deeply furrowed stands of slash and loblolly pine. The groundcover in these areas included saw palmetto, gallberry (*Ilex glabra*), broomsedge (*Andropogon virginicus*), bracken fern, bottlebrush threeawn (*Aristida spicata*), and blackberry.

Hardwood Plantations (442) are described as hardwood forests generated by planting seedling stocks or seeds. The Hardwood Plantations identified within the project appeared to be active Pecan tree (*Carya illinoensis*) plantations.

Railroads (812) bisected the interior of the southeastern-most parcel (**Figure 8M**) east of County Road 231.

Roads – Graded and Drained (8145) were found throughout the project and consisted of improved dirt roads and associated drainage swales utilized in conjunction with the cattle grazing, row crop, and silviculture operations.

Electrical Power Transmission Lines (832) were found in the southeastern corner of the project and traversed an area of Improved Pasture.

Wetlands and Other Surface Waters

The wetland and other surface water communities identified within the project totaled 2,187.55 acres and consisted of 11 separate wetland or surface water land use classifications. Wetland Forested Mixed (630) was the dominant wetland type observed and accounted for 22.76% of the project area. Wetland Hardwood Forest (610; 14.54%) and Vegetated Non-Forested Wetlands (640; 3.26%) were also described at 2% of the project.

In addition to the wetland and other surface water land uses shown on **Figures 8A to 8S**, **Figures 9A to 9S** depict the preliminary overall coverage of the project by wetlands and/or surface waters itemized by land use, pending verification by the Department and Corps. The functional value of the wetlands and other surface waters located within the project was variable and ranged from low to high quality. Functional assessments pursuant to the Uniform Mitigation Assessment Method (UMAM) are in progress for each of the onsite wetlands and other surface waters.

Wetland and Other Surface Waters Land Cover Descriptions

Ditches (513) typically include linear surface waters (ditches, swales, and canals) that are man-made and contain both variable flow and vegetative cover. The majority of these features located within the project appeared to have been historically constructed in both wetland and upland areas to facilitate drainage and subsequent agriculture and silviculture. In certain cases, areas defined as ditches were potentially not man-made, but appeared to be relict wetland drainages that had been disturbed to variable degrees by adjacent agricultural or silvicultural activities. The project contained a network of ditches and swales throughout the central and southern portions that connected a series of otherwise isolated forested wetlands.

The Cattle Pond (514) designation includes isolated surface waters associated with grazing activity that are typically excavated from upland pasture areas. Within the project, isolated cattle ponds were scattered throughout in conjunction with cattle grazing areas.

Lakes less than 10 acres which are dominant features (524) and Reservoirs less than 10 acres which are dominant features (534) are defined by FLUCFCS as areas considered lakes or reservoirs that are less than 10 acres in size and not vegetated.

Wetland Hardwood Forest (610) is defined by FLUCFCS as forested areas with a 66% or greater dominance by wetland hardwood canopy species. Wetland Hardwood Forests were observed within and contained dense canopies of a variety of species including red maple, sweetgum, American elm (*Ulmus americana*), water oak, laurel oak, sweetbay (*Magnolia virginiana*), dahoon holly (*Ilex cassine*), swamp tupelo (*Nyssa sylvatica* var. *biflora*), and water hickory (*Carya aquatica*). Typical shrub species observed included myrtle-leaved holly (*Ilex myrtifolia*), saltbush (*Baccharis halimifolia*), and fetterbush (*Lyonia lucida*). The groundcover was a mixture of open water with herbaceous species including cinnamon fern (*Osmunda regalis*), lizards-tail (*Saururus cernuus*), common arrowhead (*Sagittaria latifolia*), and denseflower knotweed (*Polygonum glabrum*).

FLUCFCS describes Gum Swamps (613) as forested wetlands composed almost exclusively of swamp tupelo, Ogeechee tupelo (*Nyssa ogeche*), or water tupelo (*Nyssa aquatica*). Gum swamps were identified within the southwestern portion of the project and were dense stands of swamp tupelo with scattered bald cypress. The groundcover contained open water with a mixture of lizards tail, softrush (*Juncus effusus*), and common arrowhead.

Cypress (621) communities are composed of pond cypress (*Taxodium ascendens*) or bald cypress. Cypress stands were observed within the southern portion of the project and were dominated by bald cypress with scattered swamp tupelo, water hickory, and red maple. The groundcover contained open water with a mixture of lizard's-tail, softrush, and common arrowhead.

Wetland Forested Mixed (630) are defined by FLUCFCS as wetland forest communities where neither hardwood nor conifer species achieve greater than 66% crown canopy cover, and are typically referred to as "Mixed Forested Wetlands". This wetland type was found within the project and was the most common wetland land use type. The largest tract of 630 identified was the mixed forested wetland system associated with the New River that flowed to the southwest in the northern portion of the project. Additionally, mixed forested wetland systems composed the majority of the tributary stream corridors that traversed portions of the project.

In general, the mixed forested wetlands systems observed contained dense, mature canopies of red maple, sweetgum, American elm, bald cypress, spruce pine (*Pinus glabra*), loblolly bay (*Gordonia lasianthus*), slash pine, loblolly pine, sweetbay, water oak, popash (*Fraxinus caroliniana*), American hornbeam (*Carpinus caroliniana*), dahoon holly, swamp tupelo, water hickory, and numerous other wetland and transitional canopy species. The understory varied from very dense to very sparse and included buttonbush (*Cephalanthus occidentalis*), fetterbush (*Lyonia lucida*), St. Andrews Cross (*Hypericum hypericoides*), highbush blueberry (*Vaccinium corymbosum*), and tree saplings of species observed in the canopy. The groundcover observed ranged from sparse to moderate and included lizard's-tail, cinnamon fern, netted chain fern (*Woodwardia areolata*), Virginia chain fern (*Woodwardia virginica*), marsh goldenrod (*Solidago fistulosa*), soft rush, common arrowhead, green arrow arum (*Peltandra virginica*), frogs-bit (*Limnobiium spongia*), and numerous other wetland herbaceous species.

Vegetated Non-Forested Wetlands (640) communities are non-forested areas with shrubs and herbs that are often situated within isolated depressions within pastures and coniferous plantations. These areas were classified in portions of the project and typically contained a scattering of shrubs including southern willow (*Salix caroliniana*), buttonbush, and saltbush, along with a dense groundcover consisting of softrush, maidencane (*Panicum hemitomon*), pickerelweed (*Pontederia cordata*), cattail (*Typha* spp.), and marsh pennywort (*Hydrocotyle umbellata*).

Freshwater Marshes (641) communities are non-forested areas characterized by dense emergent wetland vegetation with hydroperiods that typically deter canopy recruitment. Within the Mine, marshes noted contained pickerelweed, common arrowhead, bulltongue arrowhead (*Sagittaria lancifolia*), Alligator flag (*Thalia geniculata*), cattail, maidencane, softrush, southern watergrass (*Luziola fluitans*), and numerous other wetland herbaceous species.

Wet Prairies (643) are typically areas of emergent vegetation that are distinguished from marshes by having shorter hydroperiods and shorter herbage. The project contained wet prairies with the typical groundcover observed in these areas a mixture of smartweed (*Polygonum punctatum*), marsh pennywort, maidencane, softrush, beakrush (*Rynchospora* spp.), yellow-eyed grass (*Xyris* spp.), bahiagrass, and Bermuda grass.

2.7 Protected Fauna

The term "protected fauna" denotes any wildlife species that has protection of some type at the federal and/or State level owing to heightened concern over its conservation status. **Figure 10** shows depicts the three wildlife species documented within the Mine during preliminary surveys; however, the following research will guide additional wildlife surveys that are ongoing during the multi-agency permitting process.

To prepare this section, Kleinfelder queried the following databases/resources:

- Florida Natural Areas Index (FNAI) Biodiversity Matrix
- U.S. Fish and Wildlife Service (FWS) North Florida Ecological Services Office list of protected species for Bradford County
- Florida Breeding Bird Atlas I and II (Kale et al. 1992, USGS 2015)
- Florida Fish and Wildlife Conservation Commission (FWC) online Eagle Nest Locator database
- FWC online Water Bird Locator database
- FWS Wood Stork Florida Nesting Colonies and Core Foraging Areas GIS shapefiles (FWS 2014)

The above lists and databases were used to identify protected species that could *potentially* occur within the project. This list was further narrowed down based on the known habitats occupied by these species and the habitats observed onsite and in the surrounding area.

Based on the references noted above, Kleinfelder determined that 26 State and/or federally protected species have the potential to occur within the project. These species are listed in **Table 1** and include three mammal species, eleven bird species, seven reptile species, three amphibian species, and two mollusk species, as described in detail below.

Florida Mouse

The Florida mouse is State listed as a Species of Special Concern. It is typically found in xeric upland communities including scrub, sandhill, and ruderal areas and is generally associated with the presence of gopher tortoise burrows. The species is a ground dwelling rodent that utilizes holes for dwelling and nesting. The Florida mouse typically utilizes existing gopher tortoise burrows or, in the absence of gopher tortoise burrows, can dig their own burrows or use those of other mice species. The Florida mouse is listed as a species of special concern by the State of Florida (FNAI 2001). The project does not contain optimal habitat to support a population of the Florida mouse.

Sherman's Fox Squirrel

The Sherman's fox squirrel is listed as a Species of Special Concern by the FWC. The Sherman's fox squirrel is typically solitary as compared to other squirrel species, and is generally associated with sandhills, pine flatwoods, pastures, and other open, ruderal habitats that include scattered mature oaks and pines (FNAI 2001). Sherman's fox squirrels were observed in three locations within the project during preliminary surveys (**Figure 10**).

Florida Black Bear

The Florida black bear is a state-managed species under the Florida Black Bear Conservation Rule (F.A.C. Ch.68A-4.009), which makes it unlawful to harm or take black bears. Additionally, the rule states that the FWC will provide technical assistance to land owners and comments to permitting agencies in order to minimize and avoid potential negative human-bear interactions or impacts of land modifications on the conservation and management of black bears.

The Florida black bear is a subspecies of the American black bear that has historically ranged throughout most of Florida and southern portions of Alabama and Georgia. Florida black bears utilize a diversity of forested habitats including in sand-pine scrub, oak scrub, upland hardwood forests, and forested wetlands (FNAI 2001, FWC 2012).

No sightings or evidence of the Florida black bear were recorded during field assessments, however suitable habitat for the Florida black bear was observed within the northern portion of the project in association with the New River wetland corridor. The Project Area lies approximately ~2/4 miles southwest of the secondary range of the Osceola population of black bear and ~4 miles west of the secondary range of the Ocala population (**Exhibit D**; FWC 2012).

Listed Wading Birds

Five species of State-listed wading birds are likely to utilize portions of the project for foraging and possibly for nesting. These species include the limpkin (*Aramus guarauna*), little blue heron (*Egretta caerulea*), snowy egret (*Egretta thula*), tricolored heron (*Egretta tricolor*), and white ibis (*Eudocimus albus*). A sixth species of listed wading bird, the wood stork (*Mycteria americana*) is also federally listed, and as such, is discussed separately below. Many of the wetlands, ditches, and littoral edges of the cattle ponds and lakes represent suitable foraging habit for these species.

These species generally build their nests over standing water in shrubs or trees, or on islands, where they are safe from nest predators such as raccoons. Limpkins tend to nest singly, whereas the other species tend to nest in mixed-species colonies. According to the FWC Water Bird Locator database, the nearest nesting colony is located ~1.5 miles south of the project (**Exhibit E**). Although none of these species or their nests was observed during preliminary surveys, they likely utilize the project for foraging and possibly nesting.

Florida Burrowing Owl

The Florida burrowing owl (*Athene cunicularia floridana*) is listed by the FWC as a Species of Special Concern. Take of birds, nests, or eggs is prohibited by law.

Burrowing owls nest in areas of higher ground elevations since they nest below grade, and prefer sparsely vegetated sandy ground, including open prairies and pastures. They are also highly opportunistic and may occupy potentially active gopher tortoise burrows. The well-drained portions of the improved pasture located within the project represent potential burrowing owl habitat; however no burrowing owls or their burrows have been observed during preliminary surveys.

Southeastern American Kestrel

The southeastern American kestrel (*Falco sparverius paulus*) is listed as State designated Threatened by the FWC. Kestrels are generally found in open pine habitats, woodland edges, prairies, and pastures and nest in cavities in dead trees (snags) and wooden utility poles with unobstructed views. The southeastern American kestrel is a year-round resident in Florida, whereas the northern subspecies, which is unlisted, is migratory and generally arrives in September and departs by March.

In order to confirm the presence of the listed, resident subspecies, surveys should take place in the April through September breeding season. No kestrels have been observed onsite to date; however, suitable habitat was observed throughout the project including snags within the improved and woodland cattle pastures.

Florida Sandhill Crane

The Florida sandhill crane (*Grus canadensis pratensis*) is a non-migratory sub-species of sandhill crane which resides in Florida year-round and is listed as State Threatened by the FWC. Visually, it is indistinguishable from the greater sandhill crane (*Grus canadensis tabida*), which is present in Florida from October to March. Sandhill cranes utilize shallow, freshwater marsh systems dominated by pickerelweed (*Pontederia cordata*) and maidencane (*Panicum hemitomon*) for nesting and adjacent pastureland for foraging. No sandhill cranes were observed on or adjacent to the project during preliminary surveys. The freshwater marshes within the project were considered suboptimal nesting habitat as they were dominated by a mix of vegetation that is not the preferred type. The improved pasture represents suitable foraging habitat.

Bald Eagle

Bald eagles are large raptors and utilize lakes, ponds, rivers, estuaries, and the coastal areas as foraging habitat. Bald eagles typically nest in large, tall trees that provide clear views of surrounding areas. The bald eagle was de-listed from the Endangered Species Act in 2007, but is still afforded protection under the Bald and Golden Eagle Protection Act of 1940, as amended in 1962 (Federal Register Vol. 72, Number 130; 2007), Migratory Bird Treaty Act, and F.A.C. 68A-16.002.

One bald eagle was observed during preliminary surveys standing along the bank of the lake in the southern portion of the project and later flew to the southeast offsite and out of sight (**Figure 10**). The FWC maintains a record of known bald eagle nests within the State of Florida. The nearest documented bald eagle nest is located on the northeast shore of Lake Butler, approximately 5.4 miles north of the project (**Exhibit E**; FWC 2014).

Wood Stork

The wood stork is listed as Federally Endangered by the FWS and the FWC. They are large, long-legged wading birds that are a year-round resident of Florida, occurring mainly in peninsular Florida, but also documented in the Florida Panhandle. Nesting occurs in the winter and early spring, in colonies located in woody vegetation over standing water or on islands surrounded by relatively broad expanses of open water (Nesbitt *et al.* 1982). Wood storks normally feed in relatively calm water between 2 and 15 inches deep that is uncluttered by aquatic vegetation.

Wood storks will travel great distances for foraging. In North Florida, areas within 13 miles of a known wood stork colony are considered Core Foraging Areas (CFAs) by the FWS. According to the 2014 FWS list of nesting colony locations, no wood stork colonies are located within the project and the project does not lie within any wood stork CFA, with the nearest CFA located ~8.1 miles northwest of the project (**Exhibit E**). Suitable foraging habitat for the wood stork was observed, however because no known rookeries occur within 13 miles of the project, none of these areas would be considered critical foraging area by the FWS, and thus impacts to wood stork foraging habitat is unlikely.

Red-cockaded Woodpecker

The red-cockaded woodpecker (*Picoides borealis*; RCW) is listed as Endangered by the FWS and Federally Endangered by the State. RCWs are distributed throughout the southeastern United States from Florida north to Virginia and west to eastern Texas. RCWs occupy only mature, open pine forests consisting of either longleaf pine from 80 to 120 years old, or loblolly pine from 70 to 100 years old. Cooperative breeding groups need about 200 acres of forest for foraging. Suitable foraging habitat includes pine forests that have a low density of small pines, no hardwood or pine mid-story, and usually have abundant native grasses and forbs as groundcover (FWS 2012).

Suitable nesting habitat for RCW consists of pine or pine/hardwood forests, woodlands or savannahs in which greater than 50% of the dominant trees are 60 years or older (FWS 2003). No suitable nesting habitat was observed within the project. Further, the project does not appear to provide suitable foraging habitat for this species. It is therefore unlikely this species occupies within the project.

American Alligator

The American alligator (*Alligator mississippiensis*) is listed as Threatened by Similarity of Appearance to the American crocodile by the FWS and as Federally designated Threatened by Similarity of Appearance by FWC. No alligators have been observed to date within the project; however, it is likely they reside in the northern portion of the project.

Eastern Indigo Snake

The eastern indigo snake (*Drymarchon couperi*) is listed as Threatened by the FWS and as Federally Threatened by the State. The eastern indigo snake is a large, non-venomous snake found in the southeastern U.S. Eastern indigo snakes use a variety of habitats that include pine flatwoods, scrubby flatwoods, high pine, dry prairie, hardwood hammocks, and the edges of freshwater wetlands, agricultural land, coastal dunes, and disturbed areas. Eastern indigo snakes are often associated with the burrows of the gopher tortoise, where they seek shelter from high temperatures and lay eggs. In areas lacking tortoise burrows, decayed stumps and logs are important habitat features used for cover. Eastern indigo snakes eat a variety of small mammals, amphibians, and other reptiles, including eastern diamondback rattlesnakes and gopher tortoise hatchlings (FWS 1981).

Suitable habitat for the eastern indigo snake was observed within the project, and eastern indigo snakes could potentially inhabit portions of the project. No eastern indigo snakes have been observed on the project during preliminary surveys.

Gopher Tortoise

The gopher tortoise is listed as Threatened by the State. Currently it is not listed by the FWS, although the federal status in Florida is currently under review (Federal Register Vol. 76, Number 144; 2011). Gopher tortoises generally occupy well-drained, sandy soils in transitional (forest and grassy) areas. Gopher tortoises can sometimes be found in marginal habitats such as roadsides, ditch banks, utility and pipeline right-of-ways, pine flatwoods, and pastures. Many additional vertebrate and invertebrate species, known as commensal species, occupy the underground burrows created by gopher tortoises (FNAI 2001). One gopher tortoise burrow was observed within the project area (**Figure 10**).

Short-tailed Snake

The short-tailed snake (*Lampropeltis extenuata*) is listed as Threatened by the FWC and is found in dry upland habitats, principally sandhill, xeric hammock, and sand pine scrub. The upland hardwood forests and hardwood-coniferous mixed land uses may be considered suitable habitat for the short-tailed snake. No short-tailed snakes were observed during the preliminary surveys.

Alligator Snapping Turtle

The alligator snapping turtle (*Macrochelys temminckii*) is listed as a Species of Special Concern by the State and is under review by the FWS. It is a large, aquatic turtle that inhabits rivers and associated floodplains draining into the upper Gulf of Mexico. The species was recently split into three separate species, based on DNA analysis and morphological characteristics, which are associated with three major river drainages (Thomas *et al.* 2014). The eastern-most species, *Macrochelys suwanniensis*, is associated with the Suwannee River drainage, which includes the New River and Santa Fe River, and is therefore likely to occur in the project.

Florida Pine Snake

The Florida pine snake (*Pituophis melanoleucus mugitus*) is listed as a Species of Special Concern by the FWC. The Florida pine snake is a non-venomous large (up to 7 feet in length) snake with indistinct rusty blotches on a tan background. This snake is found throughout Florida (except the extreme southwestern limits) and uses the open-canopied flatwoods, scrubby flatwoods, and sand pine scrub. Florida pine snakes spend most of their time below ground and often inhabit the burrows of gopher tortoises and pocket gophers (FNAI 2001).

Suitable habitat for the Florida pine snake was observed, in addition to gopher tortoise and pocket gopher burrows; however, no direct observations were made. The Florida pine snake is likely to inhabit the project based on the presence of suitable habitat and gopher tortoise and pocket gopher burrows.

Suwanee Cooter

The Suwanee cooter (*Pseudemys concinna suwanniensis*) is a medium-sized, basking turtle with a dark carapace marked with fine yellow markings and a yellow-orange plastron with dark markings. This species inhabits rivers and large streams, often with dense aquatic vegetation and nests on high banks and bars above the floodplain (FNAI 2001). The distribution of this species includes Bradford County and it likely occurs in the New River corridor, which forms the northern boundary of the project.

Gopher Frog

The gopher frog (*Lithobates capito*) is listed by the FWC as a Species of Special Concern and is under review by the FWS. The gopher frog is a medium-sized, chunky, gray frog with bold black spots and often has orange-colored longitudinal ridge along the side behind each eye. This species requires dry flatwoods, sandhill, and scrub areas with access to nearby ephemeral ponds for breeding. The gopher frog is often associated with gopher tortoise burrows in these environments (FNAI 2001).

No gopher frogs were observed during the assessment; however, due to the presence of suitable habitat and gopher tortoise burrows, this species is likely to occur within the project.

Flatwoods Salamander

The flatwoods salamander (*Ambystoma cingulatum*) is listed as Threatened by the FWS and as Federally Threatened by the FWC. The frosted flatwoods salamander is a medium-sized (up to 5 in. in length) with a dark body mottled with whitish-gray cross bands. Breeding habitats include ephemeral and depressional wetlands dominated by pond cypress, blackgum, and slash pine that are seasonally flooded and geographically isolated from other water bodies (FWS 2005). These breeding habitats are typically devoid of predatory fish. Optimum breeding habitats are supported by appropriate upland habitats within 1,500 feet of a breeding site. Supporting upland habitats include moderately moist open pine flatwoods or pine savannas with a transitional open canopy ecotone between upland and wetland habitats to facilitate the transition (Federal Register Vol. 74, Number 26; 2009). Based on the range of this species and the presence of pine plantations interspersed with depressional forested wetland systems within portions of the project, this species has the potential to occur within the project.

Striped Newt

The striped newt (*Notophthalmus perstriatus*) was added to the candidate species list of FWS threatened and endangered species on June 7, 2011 (Federal Register Vol. 76, Number 109; 2011). The striped newt is a small salamander found only in Georgia and Florida. Habitat includes longleaf pine-dominated savanna, scrub or sand hills dominated by grass species. During the spring, the striped newt transitions from uplands into depressional and ephemeral wetlands to lay eggs. Suitable breeding habitat consists of shallow, isolated ponds, and wetlands devoid of fish (Federal Register Vol. 76, No. 109; 2011). Based on the range of this species and the presence of pine plantations interspersed with depressional forested wetland systems within portions of the project, this species has the potential to occur within the project.

Oval Pigtoe

The oval pigtoe (*Pleurobema pyriforme*) is listed as Endangered by the FWS and as Federally Endangered by FWC. This small, bivalve mollusk reaches lengths of 2.4 in. occurs in medium-sized creeks to small rivers, usually with slow to moderate current and clean, silty-sand to sand-gravel substrates. The entire stretch of New River which passes through the northern portion of the project (**Figure 10**) is deemed critical habitat for the oval pigtoe by the FWS (Federal Register Vol. 72, No. 220; 2007).

Suwannee Moccasinshell

The Suwannee moccasinshell (*Medionidus walkeri*) was proposed by the FWS to be proposed to be protected under the Endangered Species Act on October 6, 2015. The federal status of this species is currently under a 12-month finding and status review by the FWS. The historical range of this mussel included the Santa Fe River basin; however, it is believed to be extirpated from the New River with the last known collection from the area occurring in 1996.

2.8 Protected Flora

The term "protected flora" denotes any plant species that has protection of some type at the federal and/or State level owing to heightened concern over its conservation status. No protected plant species were documented within the project during preliminary surveys; however, the following research will guide additional surveys that are ongoing during the multi-agency permitting process

To prepare this section, Kleinfelder queried the following databases/resources:

- Florida Natural Areas Index (FNAI) Biodiversity Matrix
- U.S. Fish and Wildlife Service (FWS) North Florida Ecological Services Office list of protected species for Bradford and Union Counties
- Notes on Florida's Endangered and Threatened Plants (Weaver and Anderson 2010)
- University of South Florida Institute for Systematic Botany Atlas of Florida Vascular Plants

Based on the references noted above, Kleinfelder determined that 15 State-listed plant species have the *potential* to occur within the project (**Table 2**). Kleinfelder reviewed habitat requirements of these species and compared them to habitats observed onsite. The general description of threatened and endangered plant species with the potential to occur within the project are provided below.

Southern Milkweed/Green Milkweed

Southern milkweed (*Asclepias viridula*) is a perennial herb that grows in wet prairies and flatwoods, seepage slopes, and pitcher plant bogs. It is endemic to northeast Florida and the panhandle and flowers April to July typically following fire (FNAI 2000). Within the project southern milk weed has the potential to occur within the wetter coniferous plantations, wet prairies, and wetland forested mixed communities.

Flyr's Brickell-Bush

Flyr's brickell-bush (*Brickellia cordifolia*) is a perennial herb that flowers in late August to late October. It is found within dry upland pine oak woods often with southern red oak and loblolly bay, ravine slopes with spruce pine, white oak and southern magnolia; usually in sunny openings (FNAI 2000). Flyr's brickell-bush has the potential to occur within the upland hardwood forests and hardwood-coniferous mixed forests within the project.

Many-Flowered Grass Pink

Many-flowered grass pink (*Calopogon multiflorus*) is a small orchid that is found in dry to moist flatwoods with longleaf pine, wiregrass, and saw palmetto. It flowers March to July (FNAI 2000) and has the potential to occur within coniferous plantations within the project.

Bartram's Ixia

Bartram's ixia (*Calydorea caelestina*) is a perennial herb, endemic to northeast Florida. It is found within wet to mesic flatwoods and wet prairies, and flowers mid-April to mid-June (FNAI 2000). The Bartram's ixia has the potential to occur within coniferous plantations and wet prairies within the project.

Florida Toothache Grass

Florida toothache grass (*Ctenium floridanum*) is a perennial grass which grows in dense clumps in pinelands. The best survey period is summer and early fall when the species is fruiting (Weaver and Anderson 2010). Within the project, Florida toothache grass has the potential to occur within the coniferous plantations and hardwood-coniferous mixed forests.

Hartwrightia

Hartwrightia (*Hartwrightia floridana*) is a perennial herb found within southeast Georgia and peninsular Florida. It flowers in late summer through fall and is found within seepage slopes, edges of baygalls and springheads, wet prairies and flatwoods with wet peaty soils (FNAI 2000, Weaver and Anderson 2010). Suitable habitat within the project includes coniferous plantation, hardwood-coniferous mixed, wetland forested mixed, and wet prairies.

Pondspice

Pondspice (*Litsea aestivalis*) is a deciduous shrub or small tree found within the edges of baygalls, flatwoods ponds, and cypress domes and often form thickets around edges of ponds. The species flowers in late winter and early spring, and fruits in the fall (FNAI 2000). Suitable habitat within the project includes the edges of cattle ponds and lakes, cypress, and wetland forested mixed communities.

Florida Spiny-Pod

Florida spiny-pod (*Matelea floridana*) is a deciduous herbaceous vine that flowers in spring. It is found within pine-oak hickory woods and may be found in the upland hardwood forest communities within the project.

Slender Naiad

Slender naiad (*Najas filifolia*) is an aquatic plant found within freshwater ponds and flowers from spring to fall. Cattle ponds and lakes within the project represent potential habitat for this species.

Pineland Scurfpea/Pineland Leatherroot

Pineland scurfpea (*Orbexilum virgatum*) is a perennial herb found within dry to moist longleaf pine-wiregrass savannas and flatwoods (Chafin 2008). Within the project, the coniferous plantations and improved pasture represent potential habitat for this species.

Giant Orchid

Giant orchid (*Pteroglossaspis ecristata*) is a large ground orchid that resembles no other species when flowering. It occurs within sandhill, scrub, pine flatwoods, and pine rocklands, and converted pastures. This species flowers from July to September and fruits from September to November (FNAI 2000). The coniferous plantations and improved pastures represent potential habitat for this species within the project.

Florida Willow

The Florida willow (*Salix floridana*) is a small tree associated with springheads, edges of spring runs, hydric hammocks, and floodplains. This species flowers from March to April and within the project, the forested and shrub wetland communities represent potential habitat (FLUCFCS 610, 613, 621, 630, and 640).

Yellow Sunnybell

Yellow sunnybell (*Schoenolirion croceum*) flowers in spring and is associated with wet savannahs, bogs, and seepage slopes. Within the project, the wetland forested mixed and wet prairies represent potential habitat for this species.

Silver Buckthorn

Silver buckthorn (*Sideroxylon alachuense*) is a small tree found within upland hardwood forests and around lime sinks and on shell mounds. The species is endemic to north central Florida and is easily identifiable year-round by its silvery under surface of leaves and nearly hairless twigs (FNAI 2000). Within the project it has the potential to occur within hardwood-coniferous mixed and upland hardwood forest areas.

Diverseleaf Crownbeard

Diverseleaf crownbeard (*Verbesina heterophylla*) is a perennial herb associated with mesic flatwoods and dry woods. This species flowers from June to August. Within the project, the upland hardwood forests, hardwood-coniferous mixed, and coniferous plantations represent potential habitat for this species

2.9 Historical/Archaeological Survey

A preliminary Cultural Resources Review, attached as **Exhibit F**, was conducted within the project and surrounding areas in Union County to provide a preliminary assessment of archaeological and/or historic sites of interest. This preliminary review was limited to a Florida Master Site Files database search, along with reviews of selected 19th century land surveys and historic aerial photographs.

The preliminary review identified 13 previously recorded sites and 30 potential sites within the project and surrounding areas in Union County. Specific to the project area, a previously recorded site of note was a potential military cemetery located in the northeastern portion of the Mine (**Exhibit F**; Sheet 4; Site 8BF72). Neither this potential cemetery nor any of the other noted sites have been evaluated for eligibility for listing in the *National Register of Historic Places*; however, this is likely due to the lack of previous cultural surveys within the boundary. The review noted that numerous cultural resources have been identified by previous surveys within one mile of the project.

Based on the results of the preliminary Cultural Resources Review, additional surveys have been initiated within the project and the results, when finalized, will be incorporated with subsequent versions of the MMP.

2.10 Location of Existing Utilities

Two natural gas pipelines are located within the project, with one pipeline that bisects the northcentral portion of the project, and one pipeline running from the southern to eastern boundaries via the center of the project (**Figures 3 and 4**). Both pipelines appear to connect to a compressor station located to the east of the Mine. The owner of the pipelines and compressor station is the Florida Gas Transmission Company

Overhead power utilities are located within the southeastern portion of the project. No other utilities were observed or are known to occur within the project. During mining activities these utilities will be relocated with additional details to be included in a later version of this MMP.

2.11 Existing Wells

Figure 11 depicts the location of the known wells within and adjacent to the project. The wells located within the project are a combination of irrigation wells used for agricultural purposes and private wells associated with existing residences.

2.12 State and County Road Network

As depicted on **Figures 3 and 4**, County Road 231 divides the majority of the project from three separate project portions to the east. Additionally, County Road 235 extends from County Road 231 to the northeast and divides the northeastern-most portion of the project from areas to the south. County Road 18 abuts the southwestern boundary of the project. These roads are two-lane, paved roadways that include associated drainage swales.

2.13 Railroads

A CSX rail line is located within the City of Brooker and includes a railroad spur located north off the main line and along the southeastern boundary of the project (**Figures 3 and 4**) and bisects the interior of the southeastern-most project parcel.

2.14 Sensitive Site Receptors

The project was reviewed for the occurrence of sensitive site receptors both within and adjacent to the project boundary (**Exhibit G**). This review identified one sensitive site receptor, the SW 10th Avenue Historic Cemetery, located within the project. This correlates with the location of the historic cemetery identified during the cultural resource survey (**Exhibit T**; Sheet 4; Site 8BF72)

The review also noted potential sensitive site receptors located adjacent to the project (~1 mile from boundary). In particular, adjacent receptors of note included the following:

1. Cluster of receptors including a church, school, park, and fire station located to the south of the project associated with the Town of Brooker.
2. Three cemeteries and a church located to the east of the project.
3. Anchor Christian Fellowship church located north of the project.

3.0 MINING AND PROCESSING PLAN

HPS has prepared a conceptual mining and processing plan (**Figures 12A to 12T**). The phosphate matrix is composed of phosphate ore, sand and clay. The phosphate matrix is located approximately 15 feet below surface and has a thickness of up to 40 feet. The maximum depth of mining is expected to be no more than 60 feet below the surface. The HPS plans to complete the phosphate extraction over an 18 year period. The mining plan includes six phases, with each phase to be completed over a three year period. Within each phase, the mining plan includes the disturbance to approximately 200-300 acres per year. The following will discuss the mining and processing methods and will include the mine phasing plan and schedule.

3.1 Mine Limits, Phasing and Schedule

HPS plans to complete the mine excavation over an 18 year period and has prepared a mine phase plan to include six phases as identified on **Figures 12A to 12S**. The following table provides the approximate acreage of each phase of mining:

Mine Phase	Years	Mining Limits (Disturbance Acreage)
Phase 1	1-3	645.51
Phase 2	4-6	660.75
Phase 3	7-9	604.47
Phase 4	10-12	692.13
Phase 5	13-15	250.55
Phase 6	16-18	302.32
Total		3,155.73

3.2 Mining Process (Excavation Stage)

HPS will initiate the mining process (excavation stage) by first constructing the Best Management Practices (BMP) which consist of a berm and ditch located within the limits of disturbance (**Figure 12T**). The berm and ditch are in place to capture stormwater and provide for a hydrologic barrier to isolate the excavation area from the surrounding areas. Once the BMP's are constructed, the mine operator will dewater the groundwater within the area to be excavated and pump the water into the ditch surrounding the excavation area. HPS will use the conventional phosphate mining equipment known as a dragline to excavate the phosphate matrix. The dragline will first remove the overburden soils from above the phosphate matrix and stockpile it around the outside of the excavation area and within the limits of disturbance. Overburden is composed of the topsoil and the sand and clay that is located above the phosphate matrix. Removal of the overburden exposes the phosphate matrix to enable the dragline to excavate the phosphate matrix. The mine operator then excavates the phosphate matrix and places the material along the edge of the excavation area and within the limits of disturbance where it will be loaded onto the high solids transport system and sent to the beneficiation plant.

3.3 Material Transport

Once the phosphate matrix is stockpiled along the edge of the excavation area, the mine operator will use a high solids transport system (light rail or conveyor belt) to transport the phosphate matrix to the beneficiation plant. Front end loaders and a hopper will be used to load the high solids transport system.

3.4 Facilities

The project proposes one processing facility **Figures 12A and 12B**. The facility will include the beneficiation plant, maintenance workshop, wet rock storage and loadout, and offices. Beneficiation is detailed in the following section.

3.5 Phosphate Processing or Beneficiation

Processing of phosphate is referred to as beneficiation. Beneficiation is the second step in the mining process, after removal of the ore from the ground. Beneficiation is the process of mechanically separating minerals from each other. No chemical changes to the minerals will be made.

The phosphate ore (matrix) contains primarily three different components to be separated from each other. They are:

- Phosphatic minerals,
- Clay minerals, and
- Quartz sand.

As mined, the phosphate and sand particles are embedded in compacted clay. Before separation can begin, all the particles must be liberated from this matrix of clay. Upon being delivered to the beneficiation plant, the first step is to disaggregate the matrix.

The beneficiation plant “washer” dis-aggregates the matrix with vigorous agitation in water, screens it, then discharges phosphate pebble and a slurry of clay, sand, and fine phosphate particles. This first phosphate product (the “pebble”) will be as little as 5%, and as much as 15%, of the total production.

The next process removes the clays. To separate and remove the clay, the beneficiation plant utilizes equipment called “hydro-cyclones”. Slurry from the washer is fed tangentially into the cyclone (a conical chamber) at a high velocity. The slurry swirls around inside the cyclone until the clays overflow the top of the chamber. The sand and fine phosphate particles swirl to the bottom of the cyclone and move on to the next processing step.

The HPS II beneficiation plant will size the slurry leaving the cyclone underflow into two size fractions before further processing. This is done to enhance efficiency in flotation. Sizing will be done in equipment called “hydrosizers”. Feed and upward flowing water are injected into large tanks which force the fine particles to rise and overflow the tank, while the coarse particles gently fall and flow out the sizer's underflow.

The next step is flotation. The flotation step separates the phosphate from the sand. In the initial flotation step the phosphate particles are coated with a fatty acid. Once the phosphate surfaces are coated, they repel water just like a freshly waxed car during a rainstorm. The slurry of waxed-phosphate and un-waxed sand is put in agitation tanks. Tiny air bubbles are injected into the tanks (flotation cells) which attach to the waxed phosphate particles. The phosphate particles then rise with the air bubbles and are skimmed from the surface and collected.

In order to upgrade the initial (“rougher”) phosphate concentrate, a second (“cleaner”) flotation step removes the last of the residual sand. The original reagent are stripped from the phosphate surfaces, and then a different reagent is applied to the rougher concentrate. This second reagent is an amine based reagent that coats sand, but not phosphate. Once again, the slurry is fed into flotation cells, agitated and exposed to tiny air bubbles. The air carries the remaining sand to the surface where it is skimmed off and used for reclamation. The remaining phosphate mineral (“concentrate”) is collected and blended with the pebble.

The sand from both the rougher and cleaner flotation process are collected, and pumped to the Sand-Clay mix plant in preparation for use in the mine cuts for land reclamation.

3.6 Water Use

As discussed in Section 3.2, HPS will construct a ditch and berm system around the excavation area that will hold the water dewatered from the excavation area for recharge to the surficial aquifer to maintain wetland hydrological conditions where wetlands are adjacent to the excavation area (**Figure 12T**). The beneficiation plant requires water in the separation process. A recirculating water system will be used where a recirculation water pond will be constructed to provide water to the beneficiation plant and to receive water from the processing for reuse (**Figure 12M**). Makeup water will be required to maintain the pond due to evaporative losses and water lost that is entrained in the sand and clay tailings. This make-up water is proposed to come from deep aquifer wells. Water needs at the project will be significantly less than at the typical mine and beneficiation plant as material will not be moved by slurry lines and the reuse circulation pond.

Both the Department and Water Management District will evaluate and authorize these water uses and will require analysis and mathematical modeling simulations to provide assurance that the ditch and berm system, as well as deep aquifer well, will not cause an adverse impact to adjacent uses (adjacent land owner wells) and wetland/waters (Rivers, streams and other surface waters).

The following is a conceptual water balance prepared for the project. This water balance is contingent upon final design and will be updated during the State Environmental Resource Permitting and Water Use Permitting and will be updated in the final MMP and Operating Permit request to Bradford County.

Water lost to sand-clay mix = $-9,693,770 \times 40/60 =$	(6,462,514)	t/y
Water lost to product = $-2,400,000 \times 15/85 =$	(423,529)	t/y
Allowance for additional losses = 5% =	(344,302)	t/y
Water leaving the system =	(7,230,345)	t/y
Water contributed by ore = $12,093,770 \times 25/75 =$	4,031,257	t/y
Consumptive Water Use	(3,199,088)	t/y
Make up water based on 8,760 hours per year	1,460	gpm
Make up water (gpm) based on 7,446 hours per year	1,717	gpm

3.7 Erosion and Sediment Control

The mine plan includes erosion and sedimentation control plan for the project. These controls were based on the *Florida Stormwater, Erosion, and Sedimentation Control Inspectors Manual* prepared by the Florida Department of Environmental Protection (FDEP) and the Florida Department of Transportation (FDOT) (1999).

The mine operator will install silt fencing around the limits of disturbance and staked hay bales abutting the fence and perpendicular to the direction of stormwater flow as deemed necessary. The mine operator will use water trucks as necessary for fugitive dust control.

Inspection and maintenance of berms will be conducted on a regular basis to ensure integrity of the systems. All berms and silt fence/hay bales will be inspected on a weekly basis (minimum) or in the event of a rainfall that exceeds 0.5 inches in a 24-hour period. Areas identified for maintenance will be repaired as soon as possible but not later than 48 hours after the problem has been identified.

3.8 Stormwater Management

Stormwater runoff from events up to a 25-year, 24-hour storm event will be contained within the mine footprint by the berm and ditch BMP system, which provide adequate storage for the design storm event. The mining area will be progressively divided by building containment berms around the perimeter of each increment of land as it is cleared. The size of the various cells will be determined by topographic slope and direction of runoff.

Stormwater collected from the mine footprint in the ditch and berm system will be associated with a permitted discharge point. Completely treated water will be discharged at the permitting NPDES discharge point where water quality will be monitored in accordance with Industrial Waste Water (IWW) permit conditions. It should be noted that discharge will be limited to extreme storm events and chronic rainfall periods. Figure 13 provides the location of the NPDES discharge locations.

3.9 Phosphate Transport

The CSX railroad has a north-south spur in the southeastern portion of project area. HPS will position the beneficiation plant in this tract of land east of County Road 231, and will contract with CSX for wet rock load out into hopper cars on that existing rail spur (see **Figures 12A and 12B**).

4.0 Operations Monitoring Plan

HPS has developed a monitoring plan for the Bradford Mine that includes air quality, surface water, groundwater and rainfall. The monitoring plan will be implemented and maintained during mining activities.

4.1 Monitoring Plan

4.1.1 Visual Emissions

The Bradford Mine does not include a processing plant that will have emissions requiring a Title 5 air permit, but may require a permit for air emissions of particulate matter during construction. The mine operator will conduct semi-annual air quality monitoring or as otherwise required by Department permit. Figure 14 identifies the monitoring location for the beneficiation. The monitoring locations for the dry transport will be added during the submittal of the Bradford County Operating Permit.

4.1.2 Surface Water

The monitoring plan includes stage, flow and quality at five locations; including the New River at the County Road 231 crossing (**Figure 14**). Stage and flow will be measured weekly and water quality sampled quarterly.

4.1.3 Groundwater

The monitoring plan includes groundwater monitoring at 20 locations surrounding the project area (**Figure 14**). Groundwater monitoring will be conducted monthly.

4.1.4 Rainfall

The existing rainfall gauge that was installed prior to mining will continue to collect data daily throughout mining and during reclamation. **Figure 14** identifies the location of the rainfall gauge.

4.2 Schedule

The monitoring plan will follow this schedule:

Monitoring Task	Schedule
Visual emissions	Winter and summer
Surface Water	Weekly
Ground Water	Weekly
Rainfall	continuous

4.3 Reporting

HPS will compile the monitoring data and submit this information quarterly and or otherwise required by State permits.

5.0 CONCEPTUAL RECLAMATION PLAN

This conceptual reclamation plan includes the elements from the BOCC LDR Section 14.6, paragraph 2 and the mandatory reclamation requirements as set forth in Chapter 62C-16, Florida Administrative Code. Both the County and State rules require all lands disturbed by mining be reclaimed. HPS intends to reclaim the land to its pre-mining land use (agriculture) to enable the return of the agricultural operations being conducted at the time this MMP is being filed with the BOCC.

The reclamation plan considered several elements: 1) replacement of upland vegetative communities to the predominant pre-mining land use type- improved pasture 2) reclaiming 10% of the pre-mining upland acreage into upland mixed forest and using this vegetative community as a "buffer" between reclaimed wetland communities and the improved pasture, and 3) reclamation of wetland communities on a type-for-type, minimum acre-for-acre-basis with the exception of ditches which will be replaced within a wetland community type. The following discussion includes an overview of the sand/clay reclamation process, surface contouring, sequence/schedule, management and release criteria.

5.1 Sand/Clay/Overburden Process

Historically phosphate mining companies have used impoundments called clay settling areas (CSA) to store clays separated from the phosphate matrix during beneficiation. In the past, these fine materials could not be mixed with the sand also separated during the beneficiation process because the mixing technique was not sufficient to hold the sand and clay together and compact sufficiently within the excavated areas. The reclamation technique described here will return the excavated areas to a productive use for conventional agriculture and silviculture.

The transportation, washing, and de-sliming of phosphate matrix generates finely divided and dispersed clay. Flotation of the phosphate particles leaves large quantities of silica sand for reclamation material. The inability to consolidate the dispersed clays to a consistency suitable for use as a reclamation material has challenged the industry since its inception.

For a more than 50 years, the Florida Phosphate Industry, with in-house efforts and supporting work by outside researchers, has been trying to rapidly consolidate the clays and mix them with tailings sand. These efforts have spanned a wide variety of approaches and have shown mixed results. Due to technical difficulties and implementation costs, none of the approaches have been adapted by the industry. Recent work sponsored under the Florida Industrial and Phosphate Research Institute grants have shown that sand and clay can be combined into a homogeneous paste. A combination of flocculating agents and mixing devices has been proven in the laboratory and is currently being tested on an industrial scale.

This methodology will allow new mined areas to beneficially utilize sand and clay concurrently while allowing rapid reclamation by also incorporating overburden. The sand-clay-overburden mix will create a soil well suited for agricultural use. The sand/clay/overburden soil is more productive than the native soils due to the available fine phosphate and the moisture retention characteristics of the entrained clay. The sand and clay will be processed as it is separated during the beneficiation process and returned to the excavation area using high-solids transport system.

5.2 Post-Mining Surface Contouring

The conceptual reclamation plan (**Figures 15A to 15S**) demonstrates that the mined areas will be returned to the same land forms identified prior to mining. The post-mining land surface topography will approximate the pre-mining conditions.

5.3 Reclamation Sequence and Schedule

The reclamation sequence will follow the phases of mining. Based upon the sand/clay/overburden process, reclamation will closely follow the mining schedule. HPS anticipates initiating reclamation within 90 days following completion of excavation. The reclamation manager will first complete site contouring, which pursuant to Chapter 62C-16,(12)(2), FAC must be completed within 18 months of when an area is capable of being contoured. Following completion of backfilling with the sand/clay/overburden mix and contouring, the reclamation manager will complete revegetation within six months.

5.4 Post-Mining Surface Water Features

Drainage basins will be restored to approximate the pre-mining condition. In addition, a hydrologic analysis will be conducted under the post-mining condition to compare to the pre-mining condition for the mean annual, 10-yr, and 25-yr storm events and will be used to create the final reclamation plan to be submitted with the Operating Permit.

5.5 Post-Mining Groundwater Features

Groundwater tables are anticipated to return to pre-mining conditions. As a part of the post-mining monitoring, piezometers will be installed in all reclaimed wetlands and certain upland areas, as deemed warranted.

5.6 Post-Mining Land Use and Vegetation

Figures 15A – 15S illustrate the post-mining reclamation plan. The following table provides acreages of each land use type to be reclaimed as compared to pre-mining land use:

FLUCFCS Code - Land Use	Pre-mining Acres	Post-mining Acres
110 Residential, Low Density	65.26	Determined following mining
211 Improved Pasture	2121.90	2707.21
213 Woodland Pasture	19.01	7.62
214 Row Crops	447.71	12.58
232 Poultry Feeding Operations	12.03	0.00
411 Pine Flatwoods	92.17	27.73
420 Upland Hardwood Forests	10.75	7.46
434 Hardwood – Coniferous Mixed	219.30	74.66
441 Coniferous Plantations	168.52	47.86
442 Hardwood Plantations	4.80	2.09
513 Ditches	8.43	0.71
514 Cattle Ponds	9.01	2.47
524 Lakes less than 10 acres which are dominant features	6.83	265.56
534 Reservoirs less than 10 acres which are dominant features	1.50	0.33
610 Wetland Hardwood Forests	764.64	773.79
613 Gum Swamps	4.44	5.47
621 Cypress	1.81	1.95
630 Wetland Forested Mixed	1206.56	1244.69
640 Vegetated Non-Forested Wetlands	171.41	135.16
641 Freshwater Marshes	3.45	9.70
643 Wet Prairies	9.47	14.87
812 Railroad	1.91	1.91
8145 Roads – Graded and Drained	1.15	0.63
832 Electrical Power Transmission Lines	0.56	0.56
TOTALS	5,352.62	5352.62

As in the pre-mining condition, the dominant vegetative community in the post mining condition will be improved pasture. This community will be planted per the landowner's specifications which are typically seeded with bahiagrass and other pasture grasses and forbs. Pursuant to Chapter 62C-16(10.c), FAC, a minimum of 10% of the upland acreage that is reclaimed will be planted as upland mixed forest. The upland mixed forest areas (Type 438) will be planted at a density of 200 upland trees per acre with a mixture of the following species:

Live oak	<i>Quercus virginiana</i>
Shumard oak	<i>Q. shumardii</i>
Post oak	<i>Q. stellata</i>
Turkey oak	<i>Q. laevis</i>
Chinquapin oak	<i>Q. meuhlenbergii</i>
Sweetgum	<i>Liquidambar styraciflua</i>
Pignut hickory	<i>Carya glabra</i>

Therefore, it is proposed that a minimum of approximately 200 acres of mixed upland hardwoods will be planted at a density of 250 acres in order to obtain the required 200 tree per acre stand density at the end of one-year post reclamation. One-gallon containerized trees shall be utilized for all hardwood areas, planted on minimum 5-foot centers. Agriform two-year time-release fertilizer tablets will be installed with each containerized tree. The location of these plantings will be around reclaimed wetland areas to provide a transition from the coniferous plantation/wetland land use and the coniferous plantation land use.

5.7 Wetland Reclamation

Wetland mitigation will be conducted as has been previously described. After the sand/clay have been placed, rough grading will occur to establish contours similar to pre-mining conditions. Topographic checks will be made to ensure appropriate elevations are being achieved. As-built surveys shall be completed to evaluate the final contouring of the mitigation areas. The bottom and sides will be mulched with the muck stockpiled from the clearing activities within the wetlands as feasible. The rapid reclamation program driven by the sand/clay process will allow for the stockpiling and use of wetland topsoil and use in the reclamation process where feasible. The wetland topsoil can provide a seed bank for recruitment of both herbaceous and forested species.

Forested Wetlands

The reclamation manager will plant the reclaimed forested wetlands with a mixture of wetland trees and shrubs as appropriate to the impacted wetland species composition. Three gallon containerized material will be used and these species will be planted at a density of 600 trees/acre. No herbaceous species will be planted as they are anticipated to recruit into the wetland reclamation area.

Herbaceous Wetlands

The reclamation manager will use wetland topsoil from disturbed wetlands. In addition, the reclamation manager may install herbaceous plant material as deemed necessary to achieve plant cover.

5.8 Management and Monitoring

Monitoring will include both hydrologic and vegetative monitoring. Hydrologic monitoring will include installation of staff gauges and piezometers at the wetland reclamation sites. All instrumentation will be field surveyed for location as well as elevation. A rain gauge will collect daily rainfall measurements. Staff gauges and piezometers will be monitored on a monthly basis during the course of the vegetative monitoring.

Vegetation monitoring of the wetland mitigation area shall be conducted as follows: Within six months of completion of reclamation within the mitigation area, a quantitative monitoring event shall be conducted to document baseline conditions for the site. This initial quantitative event shall be considered the baseline-monitoring event and shall include submittal of the as-built survey illustrating the elevations, along with the surveyed locations of the staff gauges and piezometers. Thereafter, annual quantitative monitoring events shall be conducted during the growing season (May through October) to assess the progress of the reclamation sites. Monitoring reports, comparing and updating previous reports, shall be submitted to the Department to demonstrate compliance.

Once success criteria have been met for vegetative indicators, a quantitative assessment shall be completed and transmitted to the Department with the request for release from monitoring.

The vegetation monitoring shall be conducted as follows:

- Static photo points
- Permanent transects
 - species diversity
 - herbaceous species percent cover
 - tree/shrub density and canopy cover
 - water level measurements

5.9 Release Criteria

Reclamation areas will be released from further monitoring when the following criteria are met:

Upland Reclamation

- All upland areas must have established ground cover for one year after planting over 80% of the reclaimed upland area, excluding roads and row crops. Bare areas shall not exceed one-quarter (1/4) acre, and
- Upland forested areas shall be considered to be reforested if a stand density of 200 trees/acre is achieved at the end of one year after planting.

Herbaceous Wetland Reclamation

- Hydrologic data illustrates that adequate hydrologic cycles have been restored, and
- Herbaceous wetlands shall achieve a ground cover of at least 50% at the end of one year after planting.

Forested Wetland Reclamation

- Hydrologic data illustrates that adequate hydrologic cycles have been restored, and
- Forested wetlands shall achieve a stand density of 200 trees/acre at the end of one year after planting and shall be protected from grazing, mowing, or other adverse land uses for five years or until such time as the trees are ten feet tall.

Herbaceous Wetland Mitigation

- Hydrologic data illustrates that adequate hydrologic cycles have been restored,
- Systems are characterized by an average aerial coverage of 80% desirable hydrophytic species pursuant to Chapter 62-340.450 F.A.C., wetland vegetative index, and
- 5% or less total cover of exotic/nuisance species.

Forested Wetland Mitigation

- Hydrologic data illustrates that adequate hydrologic cycles have been restored,
- Planted or naturally recruited tree species are characterized by evidence of tree growth – increase in height, canopy coverage, and/or basal diameter.
- Systems obtain an average stand density of 400 trees per acre,
- Natural recruitment of herbaceous species obtains an average aerial coverage of 60% desirable hydrophytic species, and
- 5% or less total cover of exotic/nuisance species.

6.0 REFERENCES

- ACOE. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region.
- Chafin, Linda G. 2008. Pineland Scurf-Pea. Species account from Georgia Department of Natural Resources.
- Florida Land Use, Cover and Forms Classification System (FLUCFCS). 1999. Florida Department of Transportation.
- Florida Natural Areas Inventory (FNAI). 2000. Field Guide to the Rare Plants of Florida.
- Florida Natural Areas Inventory (FNAI). 2001. Field Guide to the Rare Animals of Florida.
- FWC online Eagle Nest Locator database.
<https://public.myfwc.com/FWRI/EagleNests/nestlocator.aspx> (accessed June 2015).
- FWC online Florida Water bird Colony Locator Database.
<http://atoll.floridamarine.org/waterBirds/> (accessed June 2015).
- FWC. 2012. Florida black bear management plan. Florida Fish and Wildlife Conservation Commission.
- Federal Register. Volume 72, Number 220. November 15, 2007. Endangered And Threatened Wildlife And Plants; Designation Of Critical Habitat For for Five Endangered and Two Threatened Mussels in Four Northeast Gulf of Mexico Drainages. 64286.
- Federal Register. Volume 74, Number 26. February 10, 2009. Endangered And Threatened Wildlife And Plants; Determination Of Endangered Status For Reticulated Flatwoods Salamander; Designation Of Critical Habitat For Frosted Flatwoods Salamander And Reticulated Flatwoods Salamander. 6699.
- Federal Register. Volume 76, Number 109. June 7, 2011. 12-Month Finding On A Petition To List The Striped Newt As Threatened. 32929.
- Federal Register (b). Volume 76, Number 144. July 27, 2011. 12-Month Finding On A Petition To List The Gopher Tortoise As Threatened In The Eastern Portion Of Its Range. 45130.
- FWS. 1981. Eastern Indigo Snake Recovery Plan.
- FWS. 2003. Red Cockaded Woodpecker South Florida Survey Protocol. Available online at:
<http://www.fws.gov/verobeach/BirdsPDFs/RedCockadedWoodpeckerSurveyProtocol.pdf>
- FWS. 2005. Draft Recovery Plan for the Flatwoods Salamander (*Ambystoma cingulatum*). Kale, H.W. II, Pranty, B., Stith, B.M., and Biggs, C.W. 1992. The atlas of the breeding birds of Florida. Final Report. Florida Game and Fresh Water Fish Commission.
- FWS. 2012 Red-Cockaded Woodpecker Recovery Plan. Available online at
<http://www.fws.gov/rcwrecovery/rcw.html>

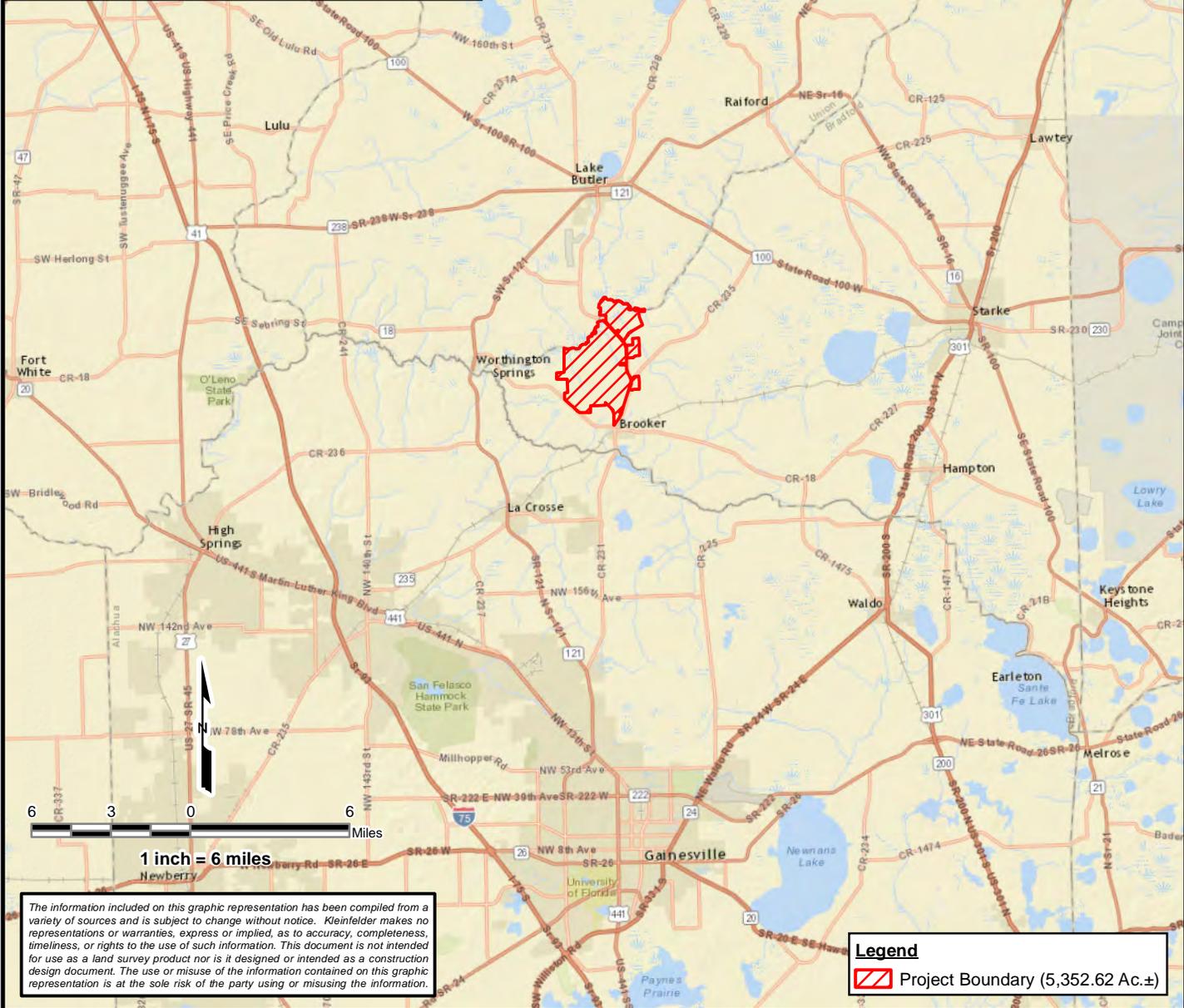
- FWS 2014. Wood Stork Florida Nesting Colony Core Foraging Areas GIS Shape Files.
<http://atoll.floridamarine.org/waterBirds> (updated 2014).
- Kale, H. W., II, Pranty, B., Stith, B.M., and Biggs, C.W. 1992. The atlas of the breeding birds of Florida. Final Report. Florida Game and Fresh Water Fish Commission.
- Nesbitt, Stephen A., Ogden, John C., Kale II, Herbert W., Patty, Barbara W., and Rowse, Leslie A. 1982. Florida atlas of breeding sites for herons and their allies: 1976-78. FWS, Office of Biological Services. FWS/OBS-8 1/49.
- Rupert, F.R. 1987A. Geology of Union County, Florida. Florida Geological Survey Bulletin 16.
- Rupert, F.R. 1987B. Geology of Bradford County, Florida. Florida Geological Survey Bulletin 17.
- Thomas, Travis M., Granatosky, Michael C., Bourque, Jason R., Krysko, Kenneth L., Moler, Paul E., Gamble, Tony, Suarez, Eric, Leone, Erin, Enge, Kevin M., and Roman, Joe. 2014. Taxonomic assessment of Alligator Snapping Turtles (Chelydridae: *Macrochelys*), with the description of two new species from the southeastern United States. *Zootaxa*. v. 3786(2): p. 141-165.
- USDA Natural Resources Conservation Service. 1991. Soil Survey of Bradford County, Florida.
- USDA Natural Resources Conservation Service. 1991. Soil Survey of Union County, Florida
- USGS. 2015. BBA Explorer; Florida 2011-2016.
http://www.pwrc.usgs.gov/bba/index.cfm?fa=explore.ProjectHome&BBA_ID=FL2011
(accessed June 2015)
- Water Resource Associates. 2007. MFL Establishment for the Upper Santa Fe River. Suwanee River Water Management District Technical Report.
- Weaver, Richard E. and Anderson, Patti J. 2010. Notes on Florida's Endangered and Threatened Plants. Bureau of Entomology, Nematology and Plant Pathology – Botany Section. Contribution No. 38, 5th edition.
- White, W.A. 1970. The Geomorphology of the Florida Peninsula. Florida Geological Survey Bulletin 51.
- Wunderlin, R.P., and Hansen, B.F. 2008. Atlas of Florida Vascular Plants.
<http://florida.plantatlas.usf.edu/> (accessed June 2015).

FIGURES



Sections 25 & 36, Township 6 South, Range 19 East
 Sections 19, 20, 29, 30, 31 & 32, Township 6 South, Range 20 East
 Sections 1 & 12, Township 7 South, Range 19 East
 Sections 5, 6, 7 & 8, Township 7 South, Range 20 East

Source: World Street Map was obtained from ESRI Basemap.



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend
 Project Boundary (5,352.62 Ac.±)

Document Path: \\mountain\MOUNTDORA-DATA\GIS\CAD\HPS Enterprises\HPS II Bradford Co Phosphate Mine\03-0000\County SUP\16-0419-HPS Bradford SUP-Location.mxd



PROJECT NO.	20163103.001A
DRAWN:	4/19/2016
DRAWN BY:	NL
CHECKED BY:	EJM
FILE NAME:	16-0419-HPS Bradford SUP-Location.mxd

Location Map

**HPS II Enterprises
 Mining Master Plan
 Bradford County, Florida**

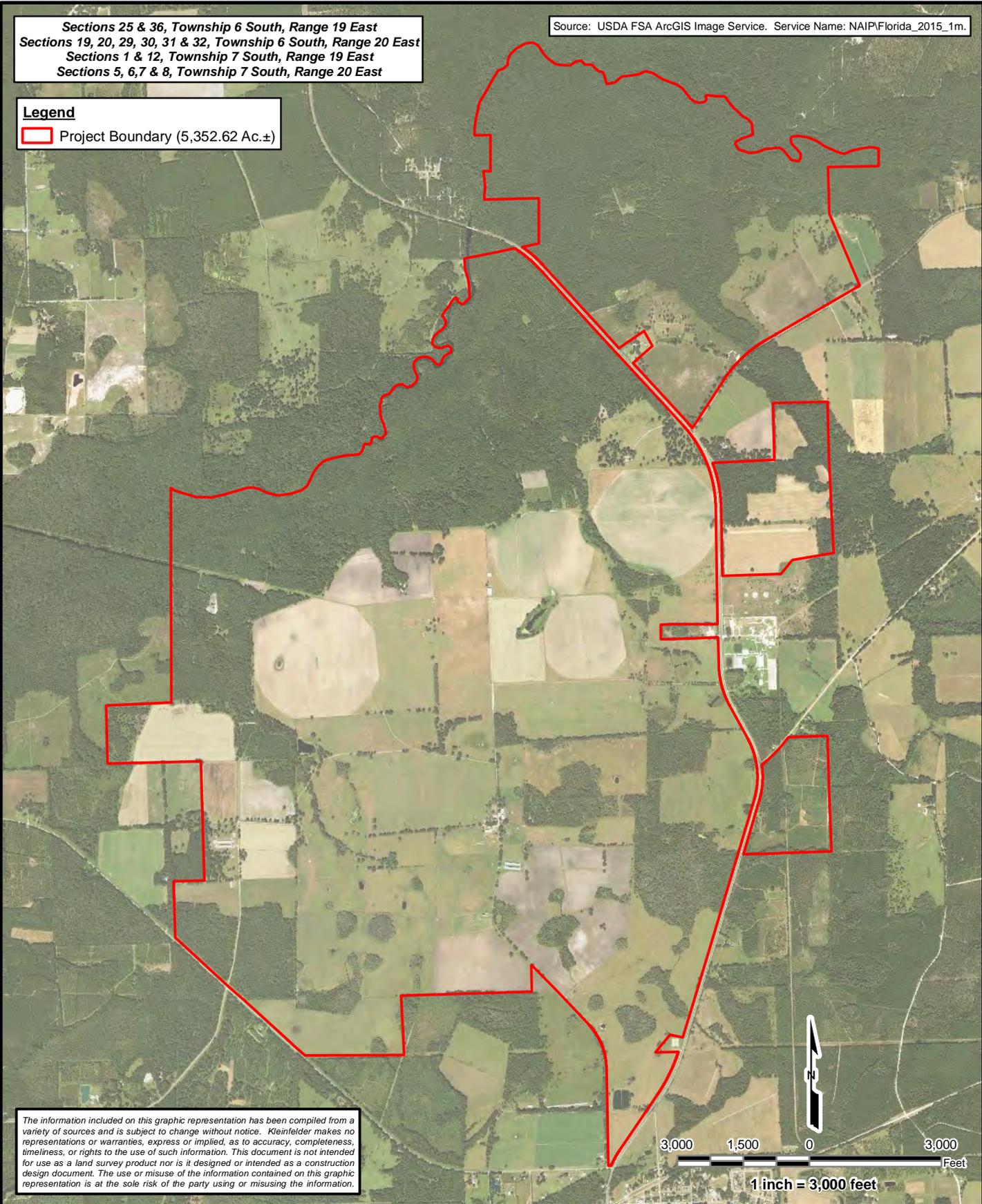
FIGURE
 1

Sections 25 & 36, Township 6 South, Range 19 East
 Sections 19, 20, 29, 30, 31 & 32, Township 6 South, Range 20 East
 Sections 1 & 12, Township 7 South, Range 19 East
 Sections 5, 6, 7 & 8, Township 7 South, Range 20 East

Source: USDA FSA ArcGIS Image Service. Service Name: NAIP/Florida_2015_1m.

Legend

 Project Boundary (5,352.62 Ac.±)



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Document Path: \\mountdora\MOUNTDORA-DATA\GIS\CAD\HPS Enterprises Inc\20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000 County SUP\16-0420-HPS Bradford SUP-Aerial.mxd



PROJECT NO. 20163103.001A
 DRAWN: 4/20/2016
 DRAWN BY: NL
 CHECKED BY: EJM
 FILE NAME: 16-0420-HPS
 Bradford SUP-Aerial.mxd

Aerial Imagery

**HPS II Enterprises
 Mining Master Plan
 Bradford County, Florida**

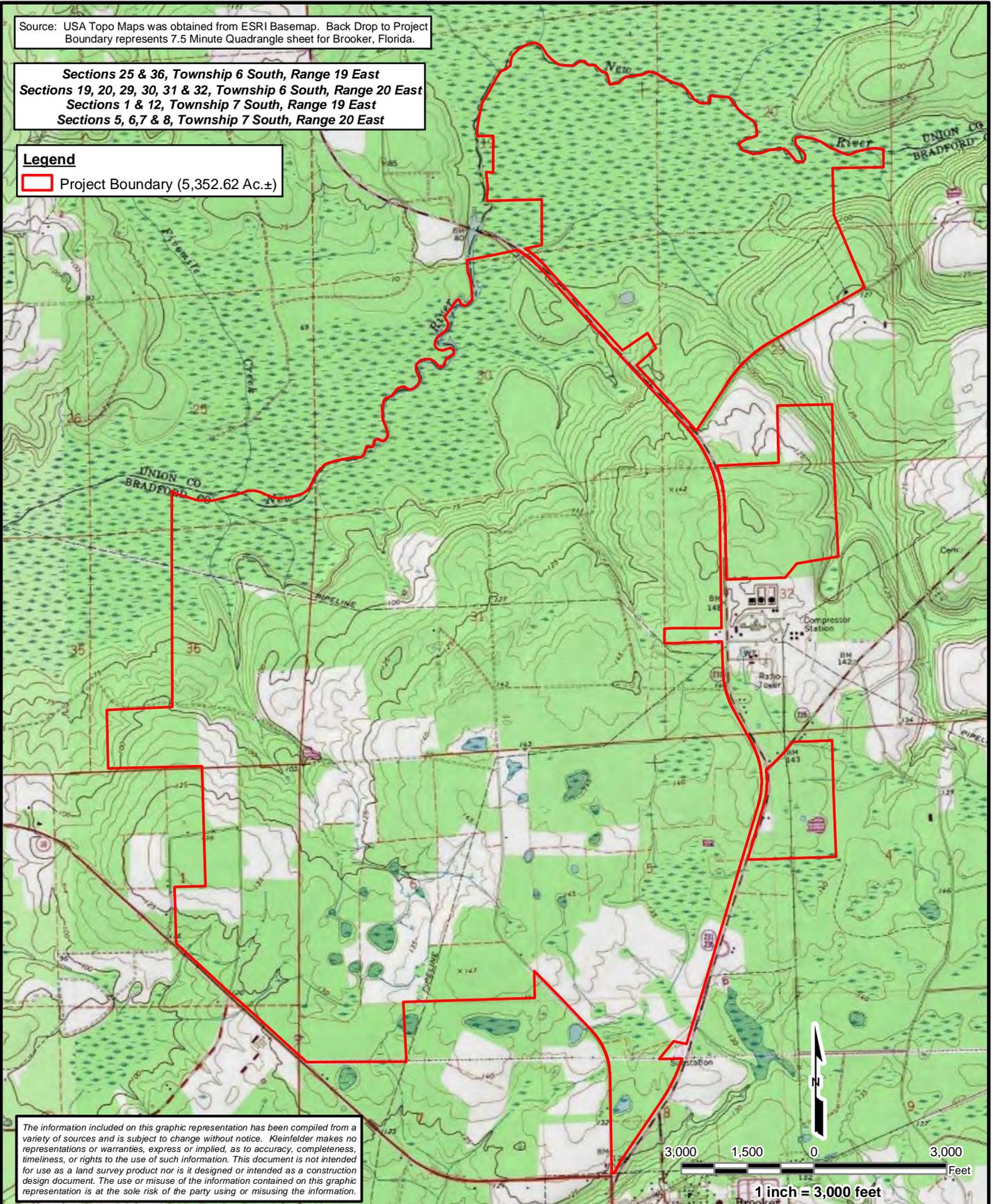
FIGURE

2

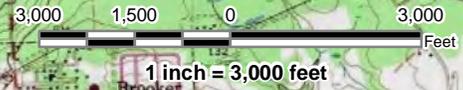
Source: USA Topo Maps was obtained from ESRI Basemap. Back Drop to Project Boundary represents 7.5 Minute Quadrangle sheet for Brooker, Florida.

Sections 25 & 36, Township 6 South, Range 19 East
 Sections 19, 20, 29, 30, 31 & 32, Township 6 South, Range 20 East
 Sections 1 & 12, Township 7 South, Range 19 East
 Sections 5, 6, 7 & 8, Township 7 South, Range 20 East

Legend
 Project Boundary (5,352.62 Ac.±)



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.



Document Path: \\mountain\MOUNTDORA-DATA\GIS\CAD\HPS Enterprises\HPS II Bradford Co Phosphate Mine\03-0000 County SUP\16-0420--HPS-Bradford SUP-USGS 24K.mxd



PROJECT NO. 20163103.001A
 DRAWN: 4/20/2016
 DRAWN BY: NL
 CHECKED BY: EJM
 FILE NAME: 16-0420--HPS
 Bradford SUP-USGS 24K.mxd

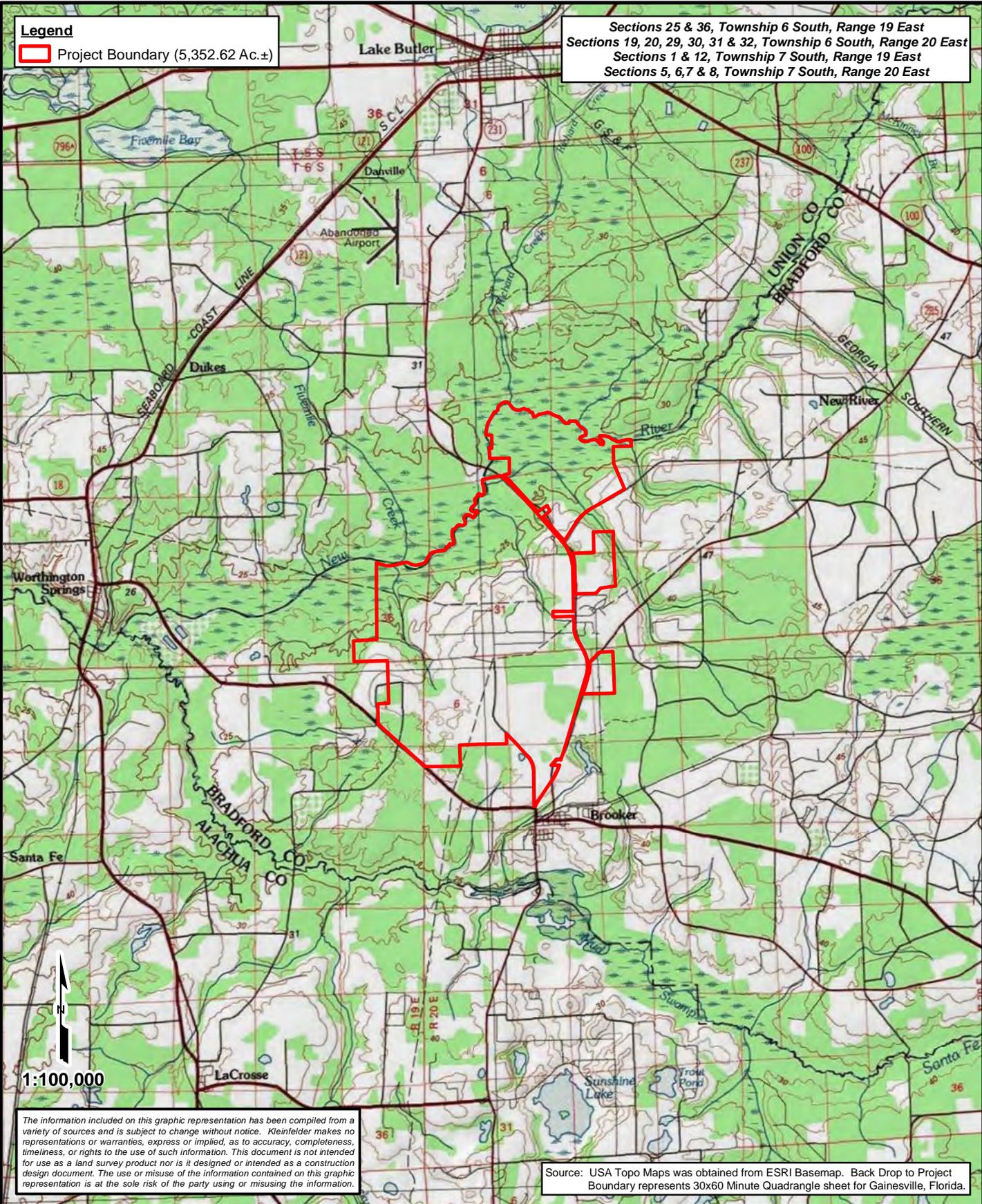
USGS Quadrangle Map
 (1:24,000)
 HPS II Enterprises
 Mining Master Plan
 Bradford County, Florida

FIGURE
 3

Document Path: \\mountain\mountain\dora-DATA\GIS\CAD\HPS Enterprises\HPS II Bradford Co Phosphate Mine\03-0000\County SUP\16-0420-HPS Bradford SUP-USGS 100K.mxd

Legend
Project Boundary (5,352.62 Ac.±)

Sections 25 & 36, Township 6 South, Range 19 East
Sections 19, 20, 29, 30, 31 & 32, Township 6 South, Range 20 East
Sections 1 & 12, Township 7 South, Range 19 East
Sections 5, 6, 7 & 8, Township 7 South, Range 20 East



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Source: USA Topo Maps was obtained from ESRI Basemap. Back Drop to Project Boundary represents 30x60 Minute Quadrangle sheet for Gainesville, Florida.



PROJECT NO. 20163103.001A
DRAWN: 4/20/2016
DRAWN BY: NL
CHECKED BY: EJM
FILE NAME: 16-0420-HPS
Bradford SUP-USGS 100K.mxd

Regional USGS Quadrangle Map
(1:100,000)
**HPS II Enterprises
Mining Master Plan
Bradford County, Florida**

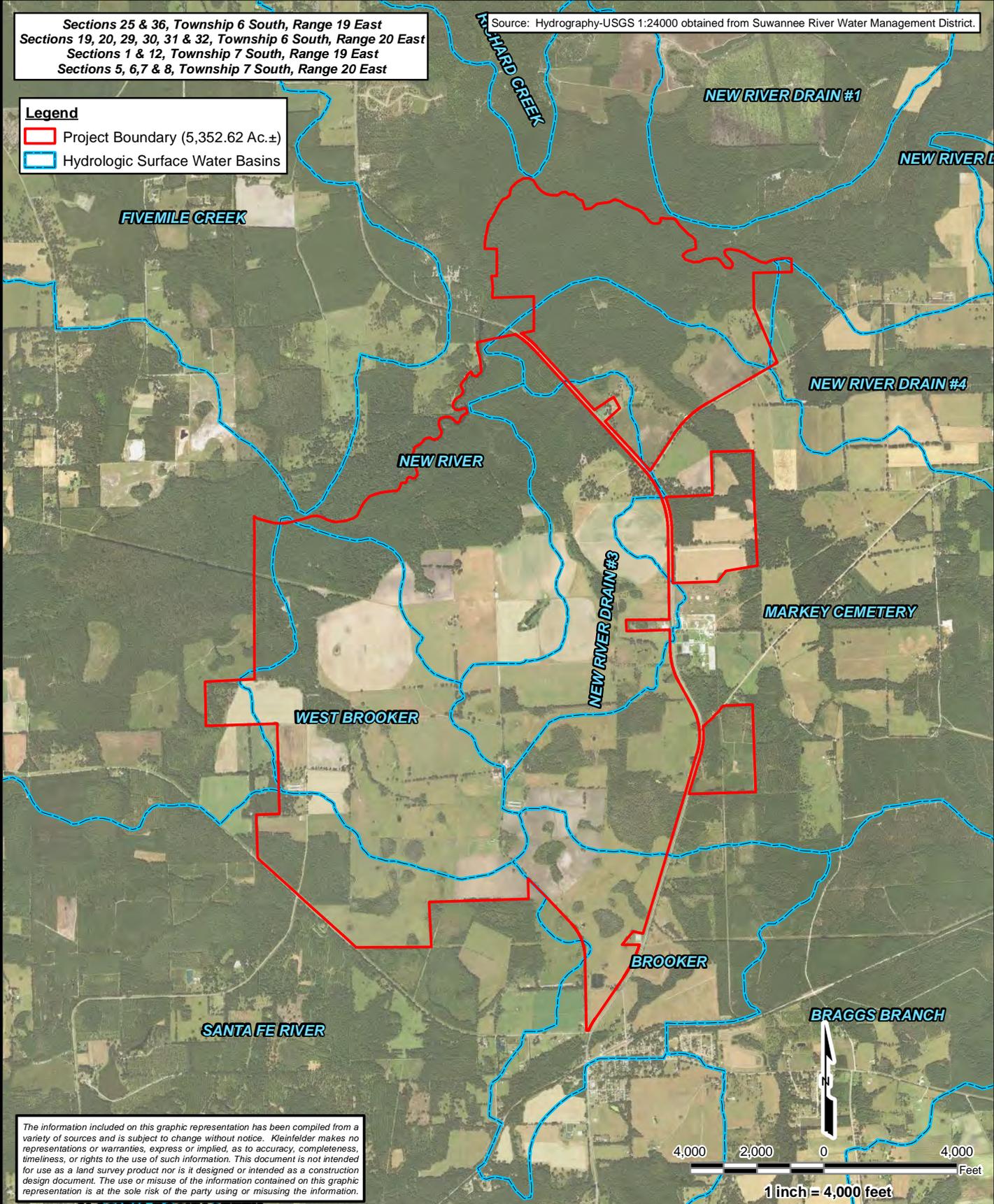
FIGURE
4

Sections 25 & 36, Township 6 South, Range 19 East
 Sections 19, 20, 29, 30, 31 & 32, Township 6 South, Range 20 East
 Sections 1 & 12, Township 7 South, Range 19 East
 Sections 5, 6, 7 & 8, Township 7 South, Range 20 East

Source: Hydrography-USGS 1:24000 obtained from Suwannee River Water Management District.

Legend

- Project Boundary (5,352.62 Ac.±)
- Hydrologic Surface Water Basins



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Document Path: \\mountdora\MOUNTDORA-DATA\GIS\CADD\HPS Enterprises\HPS II Bradford Co Phosphate Mine\03-0000 County SUP\16-0420--HPS Bradford SUP-Watershed.mxd



PROJECT NO.	20163103.001A
DRAWN:	4/20/2016
DRAWN BY:	NL
CHECKED BY:	EJM
FILE NAME:	16-0420--HPS Bradford SUP-Watershed.mxd

Watershed Boundaries

**HPS II Enterprises
Mining Master Plan
Bradford County, Florida**

FIGURE

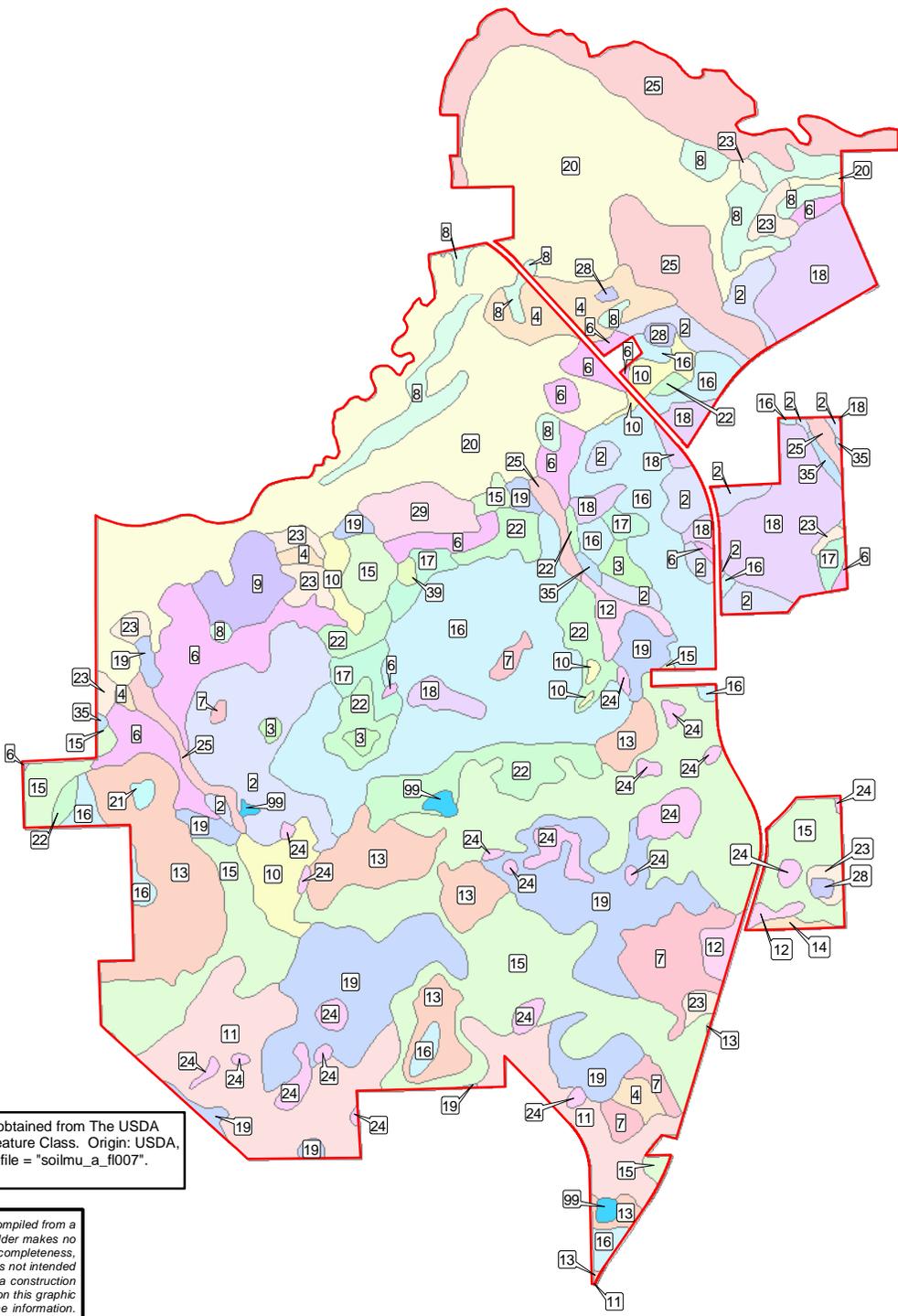
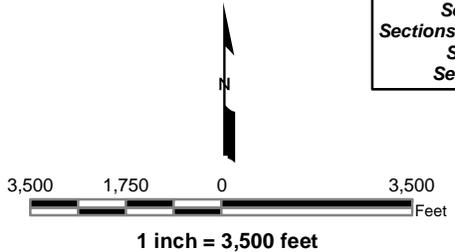
5

Document Path: \\mountdora\MOUNTDORA-DATA\GIS\CAD\HPS Enterprises Inc\20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000 County SUP\16-0420-HPS Bradford SUP-Soils.mxd

Legend

- Project Boundary (5,352.62)
- NRCS Soils**
- 2--Albany fine sand, 0 to 5 percent slopes (282.68 Ac.±)
- 3--Ocilla fine sand, 0 to 5 percent slopes (21.96 Ac.±)
- 4--Mascotte sand (91.45)
- 6--Plummer-Plummer wet, sands (205.03 Ac.±)
- 7--Surrency and Pantego soils, depressional (102.44 Ac.±)
- 8--Surrency and Pantego soils, frequently flooded (134.04 Ac.±)
- 9--Starke mucky fine sand, frequently flooded (52.88 Ac.±)
- 10--Osier sand (89.05)
- 11--Allanton loamy sand (305.44)
- 12--Sapelo sand (42.24)
- 13--Hurricane sand, 0 to 5 percent slopes (322.83 Ac.±)
- 14--Pamlico and Croatan mucks (7.08 Ac.±)
- 15--Pottsburg sand (796.50)
- 16--Foxworth fine sand, 0 to 5 percent slopes (586.63 Ac.±)
- 17--Blanton fine sand, 0 to 5 percent slopes (62.57 Ac.±)
- 18--Lakeland sand, 0 to 5 percent slopes (258.61 Ac.±)
- 19--Leon sand (405.67)
- 20--Grifton and Ellorree soils, frequently flooded (814.93 Ac.±)
- 21--Beaches, 1 to 5 percent slopes (4.91 Ac.±)
- 22--Chipley fine sand, 0 to 5 percent slopes (193.46 Ac.±)
- 23--Pelham-Pelham wet, fine sands (76.62 Ac.±)
- 24--Starke mucky fine sand, depressional (100.81 Ac.±)
- 25--Fluvaquents-Ousley association, occasionally flooded (311.44 Ac.±)
- 28--Arents, moderately wet, 0 to 5 percent slopes (12.03 Ac.±)
- 29--Dorovan muck, frequently flooded (45.11 Ac.±)
- 35--Wampee loamy fine sand, 5 to 12 percent slopes (10.58 Ac.±)
- 39--Blanton fine sand, 5 to 12 percent slopes (3.97 Ac.±)
- 99--Water (11.66)

Sections 25 & 36, Township 6 South, Range 19 East
Sections 19, 20, 29, 30, 31 & 32, Township 6 South, Range 20 East
Sections 1 & 12, Township 7 South, Range 19 East
Sections 5, 6, 7 & 8, Township 7 South, Range 20 East



Source: Soils Database for Miami-Dade County, Florida obtained from The USDA NRCS Web Soil Survey in the form Shapefile Feature Class. Origin: USDA, Natural Resource Conservation Service. Shapefile = "soilmu_a_f1007". Publication Date: September 18, 2014.

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.



PROJECT NO.	20163103.001A
DRAWN:	4/20/2016
DRAWN BY:	NL
CHECKED BY:	EJM
FILE NAME:	16-0420-HPS Bradford SUP-Soils.mxd

Soils Map

**HPS II Enterprises
Mining Master Plan
Bradford County, Florida**

FIGURE

6

Source: The National Flood Hazard Layer (NFHL) data incorporates all Flood Insurance Rate Map (FIRM) databases published by the Federal Emergency Management Agency (FEMA), and any Letters Of Map Revision (LOMRs) that have been issued against those databases since their publication date. Publication Date: February 10, 2016. Panel Number: 12007C0155E & 12007C0165E.

Sections 25 & 36, Township 6 South, Range 19 East
Sections 19, 20, 29, 30, 31 & 32, Township 6 South, Range 20 East
Sections 1 & 12, Township 7 South, Range 19 East
Sections 5, 6, 7 & 8, Township 7 South, Range 20 East

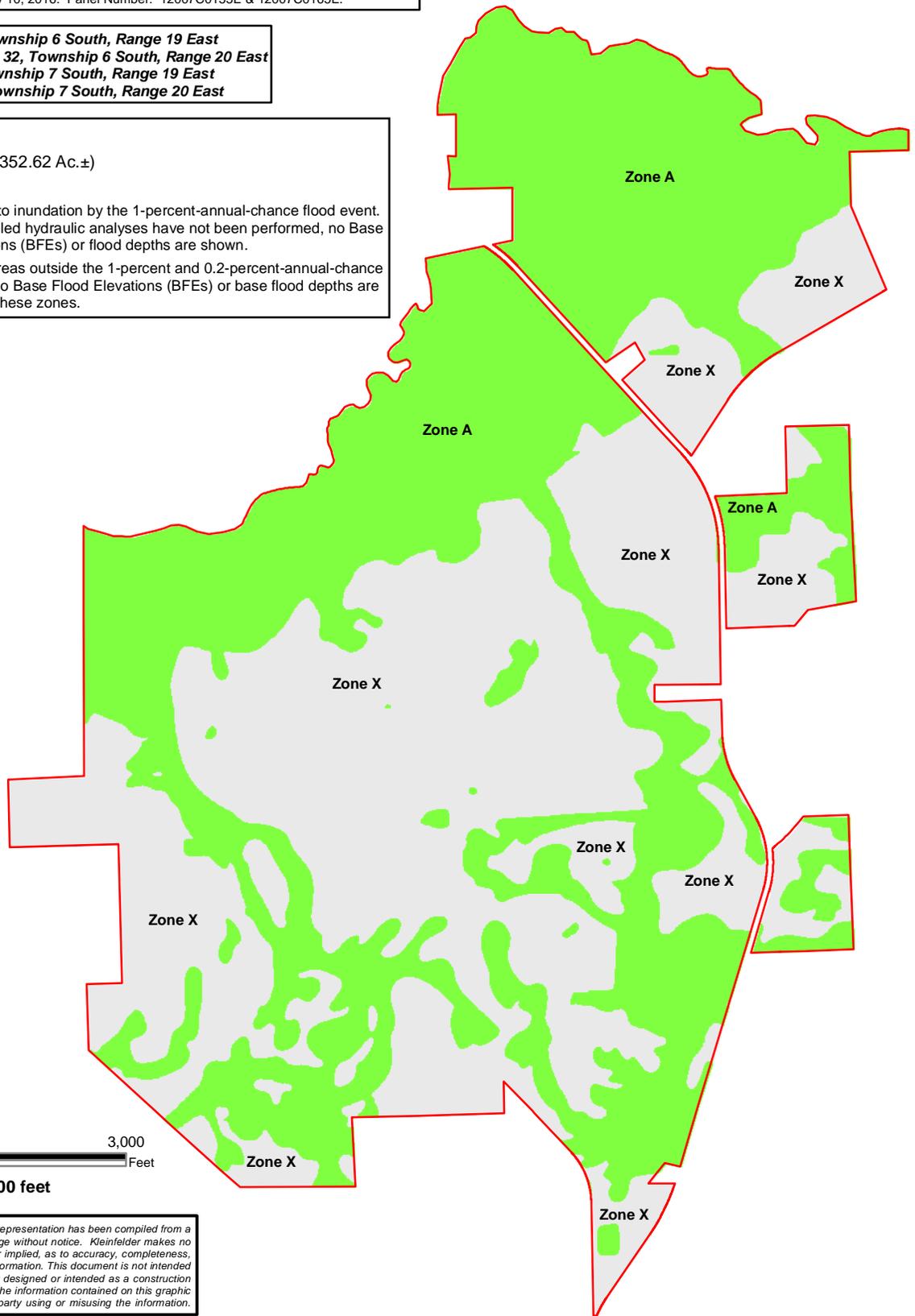
Legend

 Project Boundary (5,352.62 Ac.±)

Floodplains

 Zone A - Areas subject to inundation by the 1-percent-annual-chance flood event. Because detailed hydraulic analyses have not been performed, no Base Flood Elevations (BFEs) or flood depths are shown.

 Zone X - Minimal risk areas outside the 1-percent and 0.2-percent-annual-chance floodplains. No Base Flood Elevations (BFEs) or base flood depths are shown within these zones.



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Document Path: \\mountdora\MOUNTDORA-DATA\GIS\CADD\HPS Enterprises Inc\20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000\County SUP\16-0420--HPS Bradford SUP-Flood.mxd



PROJECT NO. 20163103.001A
 DRAWN: 4/20/2016
 DRAWN BY: NL
 CHECKED BY: EJM
 FILE NAME: 16-0420--HPS
 Bradford SUP-Flood.mxd

Floodplains

**HPS II Enterprises
 Mining Master Plan
 Bradford County, Florida**

FIGURE
 7

FLORIDA LAND USE, COVER AND FORMS CLASSIFICATION SYSTEM, 1999

FLUCFCS CODE	LAND USE	ACREAGE	%
110	Residential, Low Density	65.26	1.22
211	Improved Pasture	2121.90	39.64
213	Woodland Pasture	19.01	0.36
214	Row Crops	447.71	8.36
232	Poultry Feeding Operations	12.03	0.22
411	Pine Flatwoods	92.17	1.72
420	Upland Hardwood Forests	10.75	0.20
434	Hardwood - Coniferous Mixed	219.30	4.10
441	Coniferous Plantations	168.52	3.15
442	Hardwood Plantations	4.80	0.09
513	Ditches	8.43	0.16
514	Cattle Ponds	9.01	0.17
524	Lakes less than 10 acres which are dominant features	6.83	0.13
534	Reservoirs less than 10 acres which are dominant features	1.50	0.03
610	Wetland Hardwood Forests	764.64	14.29
613	Gum Swamps	4.44	0.08
621	Cypress	1.81	0.03
630	Wetland Forested Mixed	1206.56	22.54
640	Vegetated Non-Forested Wetlands	171.41	3.20
641	Freshwater Marshes	3.45	0.06
643	Wet Prairies	9.47	0.18
812	Railroads	1.91	0.04
8145	Roads - Graded and Drained	1.15	0.02
832	Electrical Power Transmission Lines	0.56	0.01
	Total	5352.62	100.00

Source: Land Use and Land Cover information prepared by Kleinfelder. The Florida Land Use, Cover and Forms Classification System Handbook, January 1999, was utilized to determine the specific land use classifications.

Sections 25 & 36, Township 6 South, Range 19 East
Sections 19, 20, 29, 30, 31 & 32, Township 6 South, Range 20 East
Sections 1 & 12, Township 7 South, Range 19 East
Sections 5, 6, 7 & 8, Township 7 South, Range 20 East

NOTE: Wetland/Other Surface Water limits pending FDEP and Corps verification.

Legend

- Project Boundary (5,352.62 Ac.±)
- Section/Township/Range

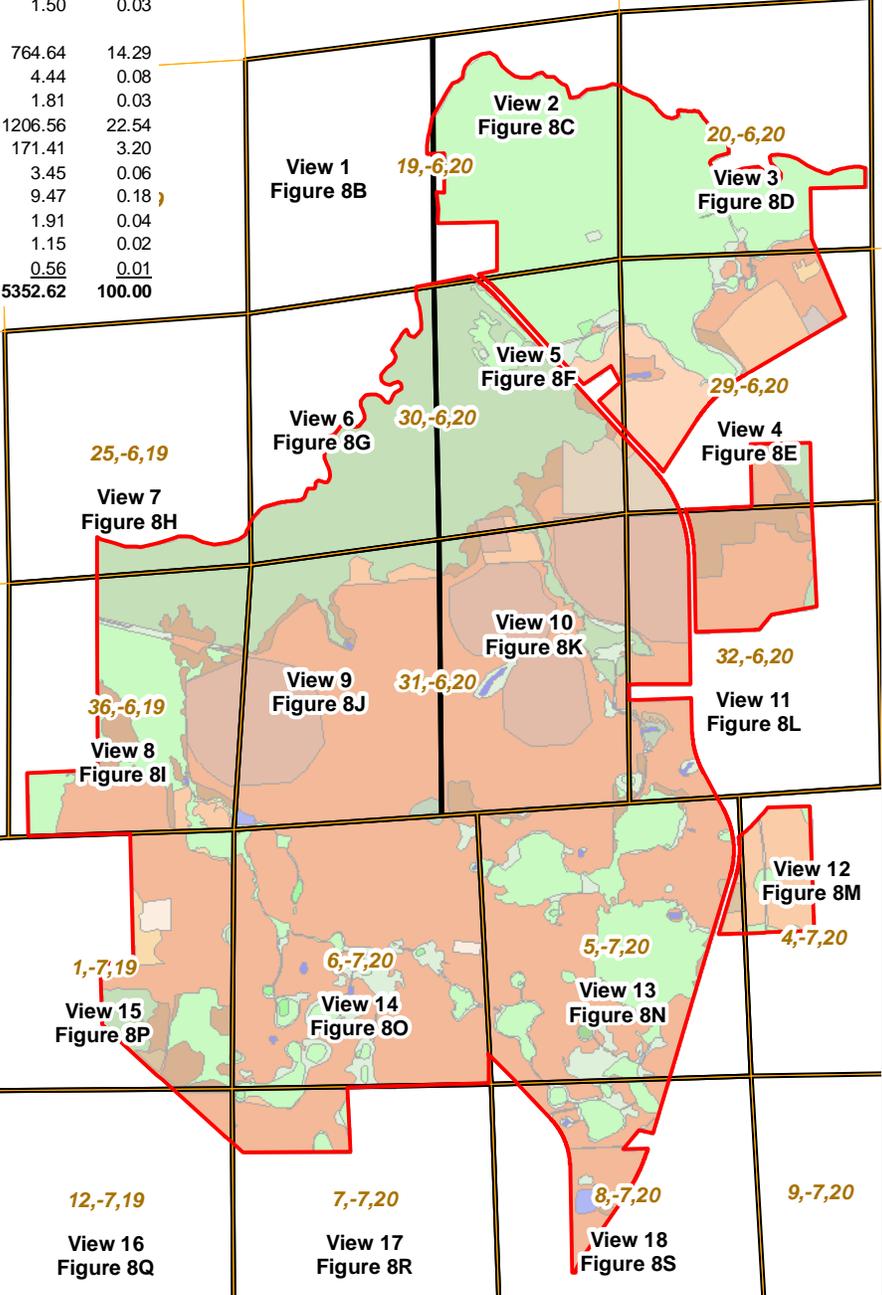
27,-6,19 26,-6,19

34,-6,19 35,-6,19

3,-7,19 2,-7,19

1 inch = 4,000 feet

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.



KLEINFELDER
 Bright People. Right Solutions.
 www.kleinfelder.com

PROJECT NO.	20163103.001A
DRAWN:	4/20/2016
DRAWN BY:	NL
CHECKED BY:	EJM
FILE NAME:	16-0420--HPS Bradford SUP-LU Key.mxd

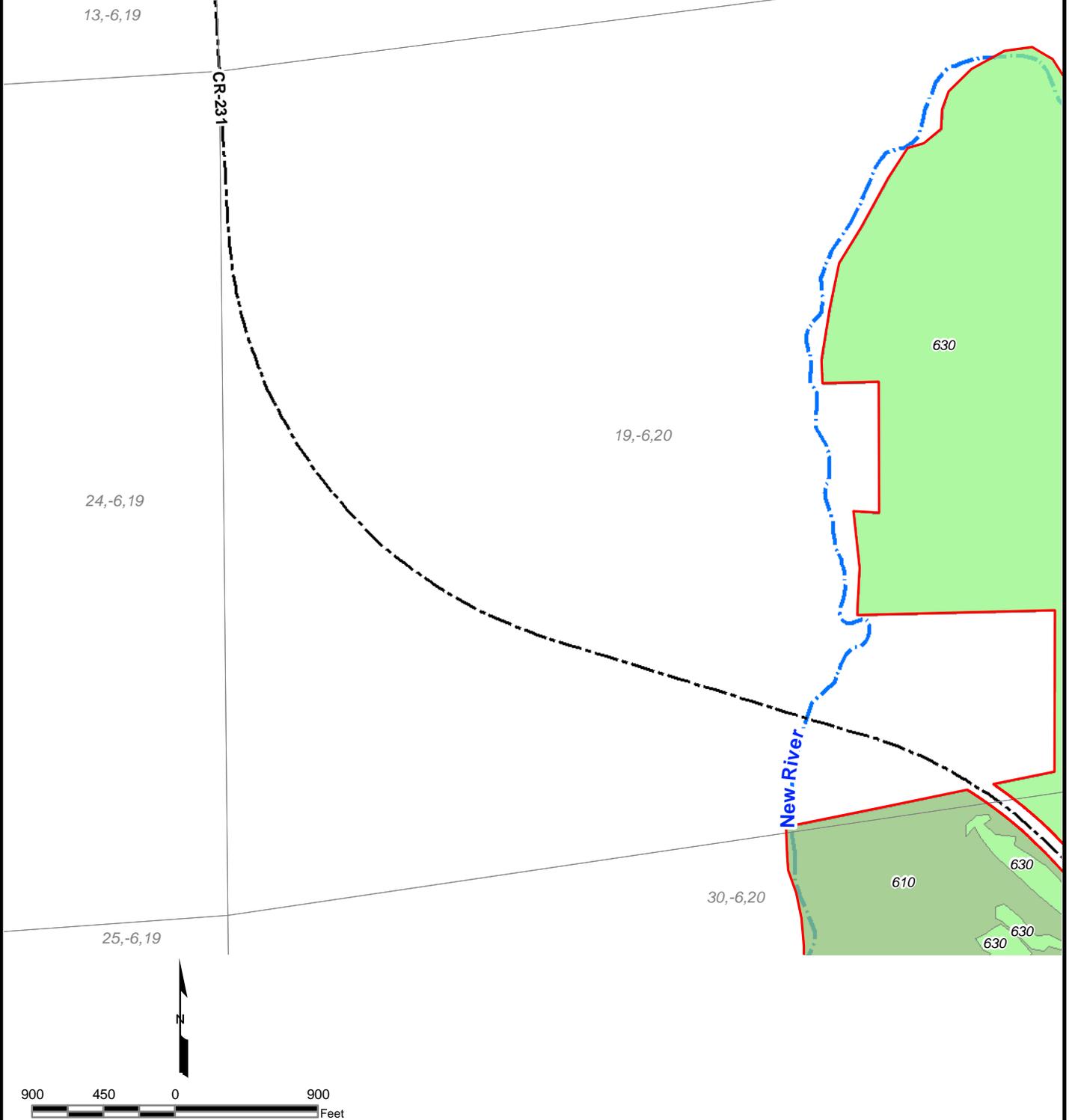
Land Use Map - Key

**HPS II Enterprises
 Mining Master Plan
 Bradford County, Florida**

FIGURE

8A

NOTE: Wetland/Other Surface Water limits pending FDEP and Corps verification.



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend	
Project Boundary (5,352.62 Ac.±)	610--Wetland Hardwood Forests
Section/Township/Range	630--Wetland Forested Mixed
Land Use	

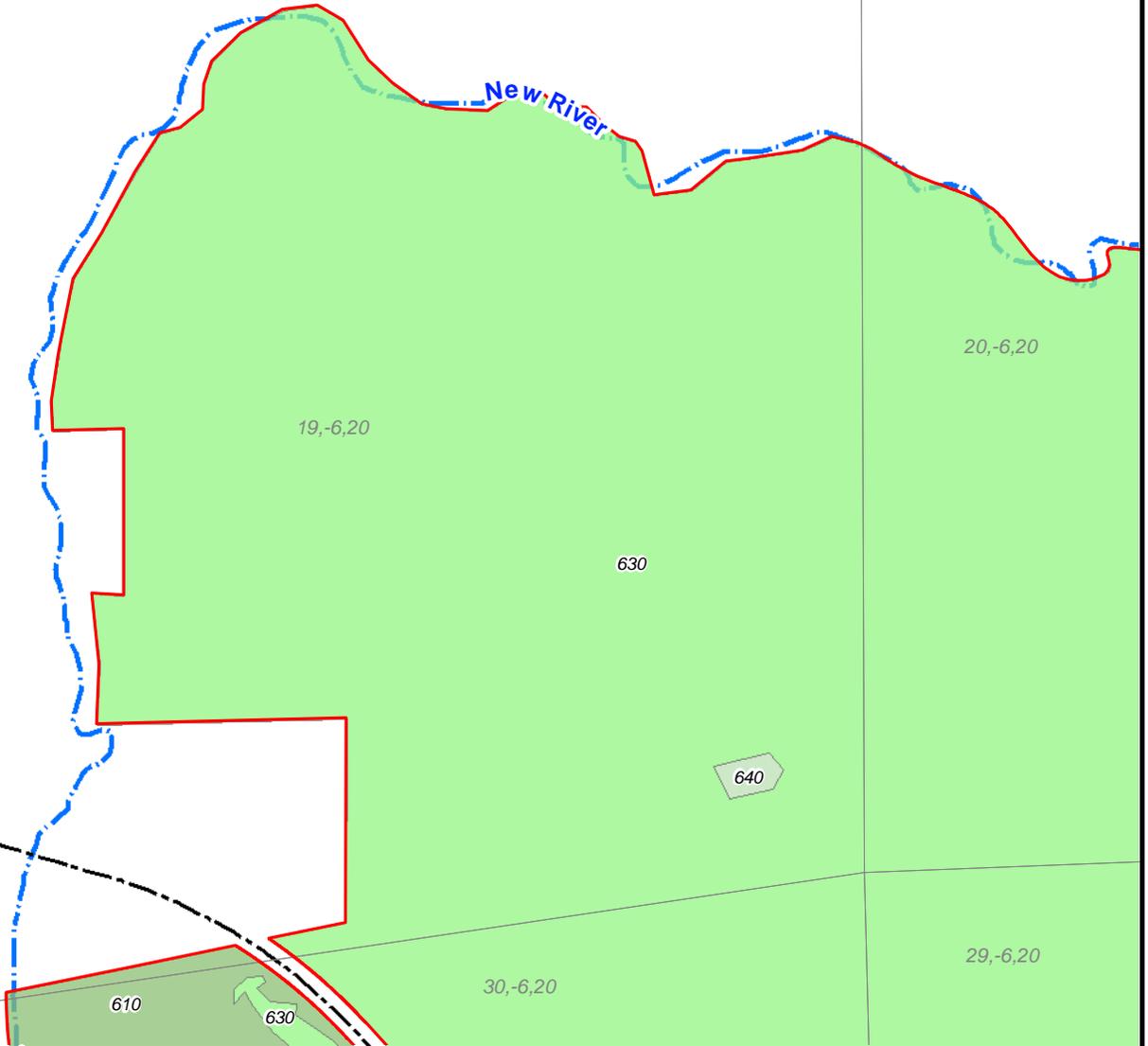
Document Path: \\mountdora\MOUNTDORA-DATA\GIS\CADD\HPS Enterprises Inc\20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000 County SUP\16-0420--HPS Bradford SUP-LU.mxd

<p>KLEINFELDER Bright People. Right Solutions. www.kleinfelder.com</p>	PROJECT NO. 20163103.001A	Land Use Map - View 1	FIGURE 8B
	DRAWN: 4/20/2016		
	DRAWN BY: NL	HPS II Enterprises Mining Master Plan Bradford County, Florida	
	CHECKED BY: EJM		
FILE NAME: 16-0420--HPS Bradford SUP-LU.mxd			

NOTE: Wetland/Other Surface Water limits pending FDEP and Corps verification.

17,-6,20

18,-6,20



CR-231

19,-6,20

20,-6,20

630

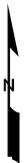
640

29,-6,20

610

630

30,-6,20



1 inch = 900 feet

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend

- Project Boundary (5,352.62 Ac.±)
- Section/Township/Range
- 610--Wetland Hardwood Forests
- 630--Wetland Forested Mixed
- 640--Vegetated Non-Forested Wetlands



PROJECT NO. 20163103.001A
 DRAWN: 4/20/2016
 DRAWN BY: NL
 CHECKED BY: EJM
 FILE NAME: 16-0420--HPS
 Bradford SUP-LU.mxd

Land Use Map - View 2

**HPS II Enterprises
 Mining Master Plan
 Bradford County, Florida**

FIGURE

8C

NOTE: Wetland/Other Surface Water limits pending FDEP and Corps verification.

16,-6,20

18,-6,20

17,-6,20

New River

21,-6,20

20,-6,20

19,-6,20

630

640

640

28,-6,20

30,-6,20

640

211

513

211

640

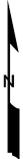
213

630

29

513

630



1 inch = 900 feet

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend

- Project Boundary (5,352.62 Ac.±)
- Section/Township/Range
- 211--Improved Pastures
- 213--Woodland Pastures
- 513--Ditches
- 630--Wetland Forested Mixed
- 640--Vegetated Non-Forested Wetlands



PROJECT NO. 20163103.001A
 DRAWN: 4/20/2016
 DRAWN BY: NL
 CHECKED BY: EJM
 FILE NAME: 16-0420--HPS
 Bradford SUP-LU.mxd

Land Use Map - View 3

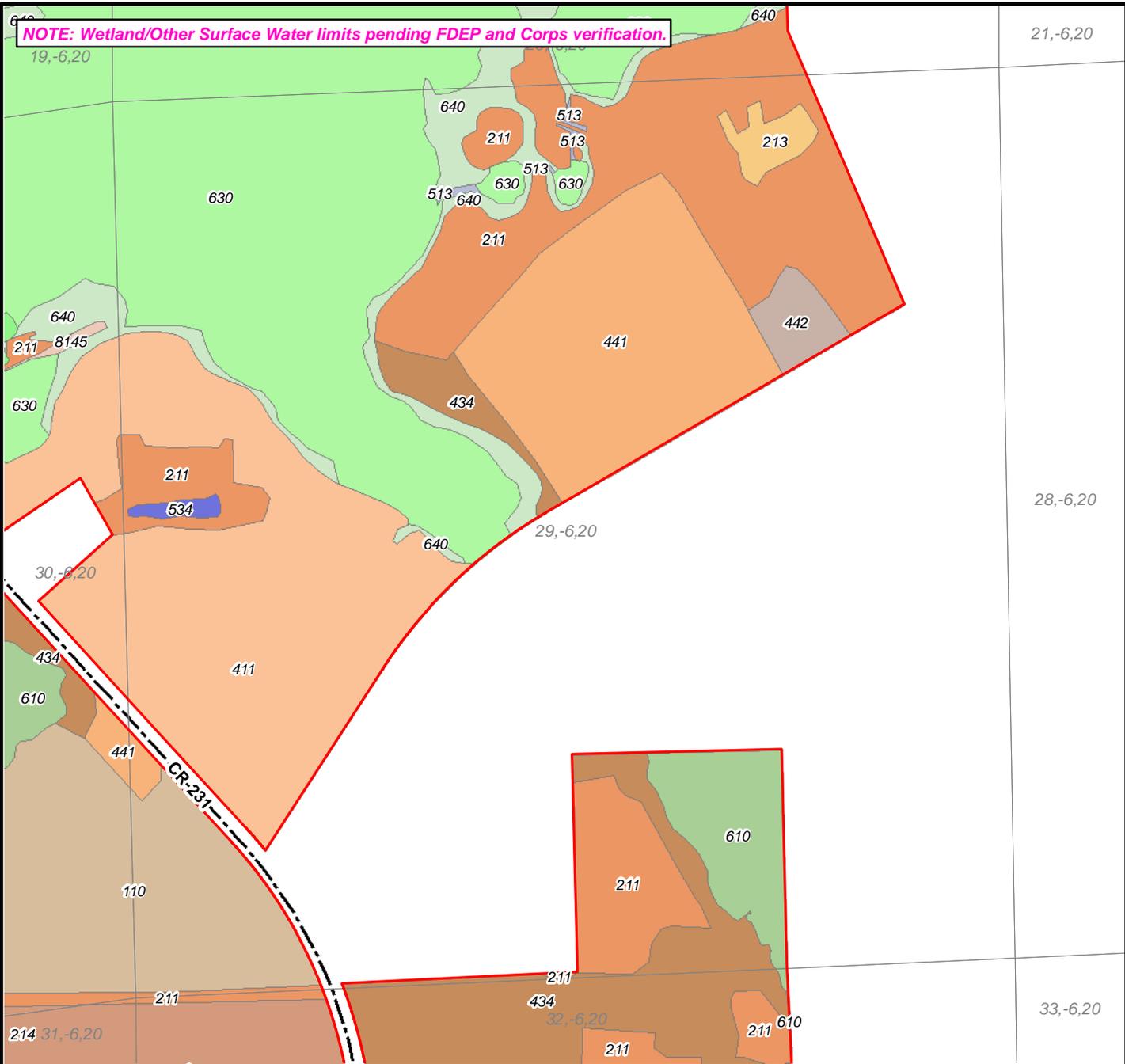
**HPS II Enterprises
 Mining Master Plan
 Bradford County, Florida**

FIGURE

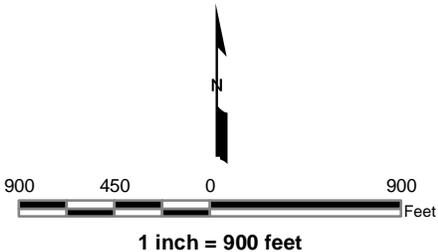
8D

Document Path: \\mountdora\MOUNTDORA-DATA\GIS\CADD\HPS Enterprises Inc\20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000 County SUP\16-0420--HPS Bradford SUP-LU.mxd

Document Path: V:\mountain\MOUNTDORA-DATA\GIS\CAD\HPS Enterprises\Incl20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000 County SUP\16-0420-HPS Bradford SUP-LU.mxd



NOTE: Wetland/Other Surface Water limits pending FDEP and Corps verification.



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend	
	Project Boundary (5,352.62 Ac.±)
	Section/Township/Range
Land Use	
	110--Residential, Low Density
	211--Improved Pastures
	213--Woodland Pastures
	214--Row Crops
	411--Pine Flatwoods
	434--Hardwood - Conifer Mixed
	441--Coniferous Plantations
	442--Hardwood Plantations
	513--Ditches
	534--Reservoirs less than 10 acres
	610--Wetland Hardwood Forests
	630--Wetland Forested Mixed
	640--Vegetated Non-Forested Wetlands
	641--Freshwater Marshes
	8145--Graded and Drained



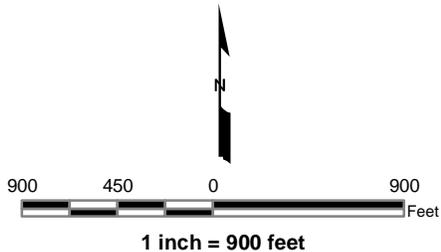
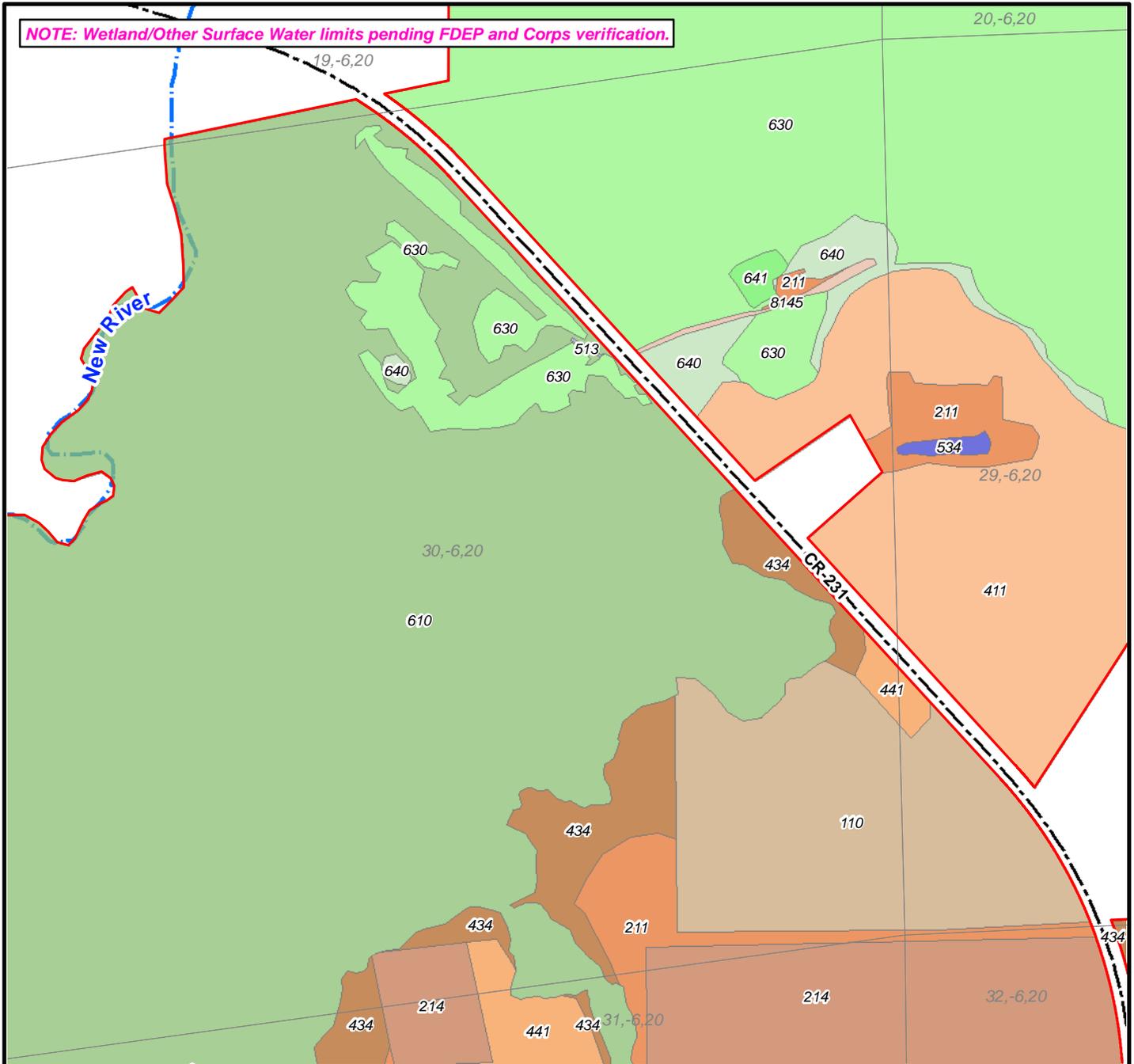
PROJECT NO. 20163103.001A
 DRAWN: 4/20/2016
 DRAWN BY: NL
 CHECKED BY: EJM
 FILE NAME: 16-0420--HPS
 Bradford SUP-LU.mxd

Land Use Map - View 4

**HPS II Enterprises
 Mining Master Plan
 Bradford County, Florida**

FIGURE
8E

NOTE: Wetland/Other Surface Water limits pending FDEP and Corps verification.



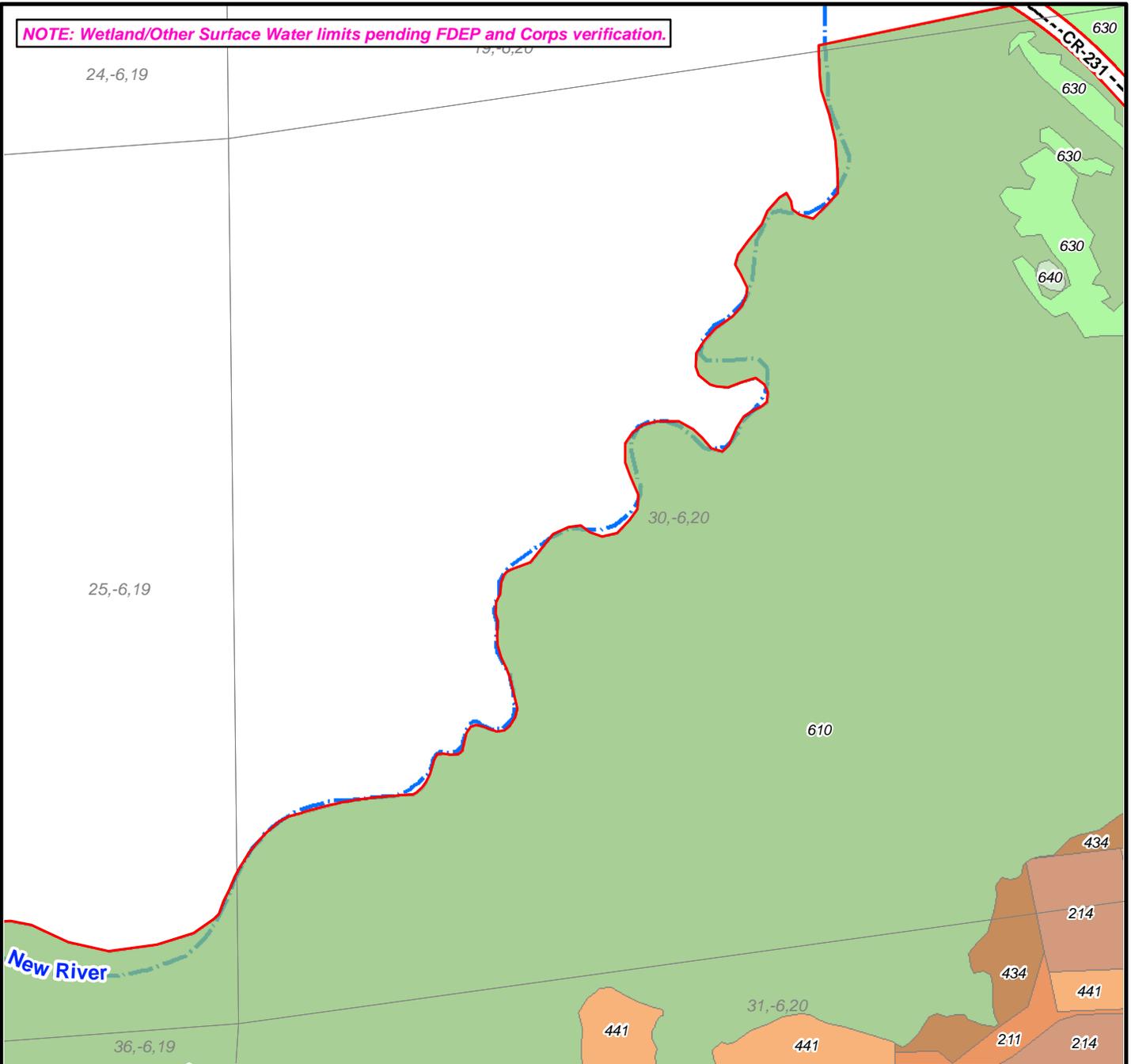
The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend	
Project Boundary (5,352.62 Ac.±)	441--Coniferous Plantations
Section/Township/Range	513--Ditches
Land Use	
110--Residential, Low Density	610--Wetland Hardwood Forests
211--Improved Pastures	630--Wetland Forested Mixed
214--Row Crops	640--Vegetated Non-Forested Wetlands
411--Pine Flatwoods	641--Freshwater Marshes
434--Hardwood - Conifer Mixed	8145--Graded and Drained
441--Coniferous Plantations	

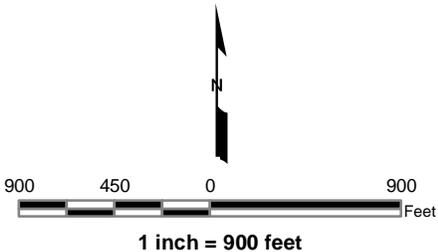
Document Path: \\mountain\MOUNTDORA-DATA\GIS\CAD\HPS Enterprises Inc\20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000 County SUP\16-0420--HPS Bradford SUP-LU.mxd

<p>KLEINFELDER Bright People. Right Solutions. www.kleinfelder.com</p>	PROJECT NO. 20163103.001A	Land Use Map - View 5	FIGURE 8F
	DRAWN: 4/20/2016		
	DRAWN BY: NL	HPS II Enterprises Mining Master Plan Bradford County, Florida	
	CHECKED BY: EJM		
FILE NAME: 16-0420--HPS Bradford SUP-LU.mxd			

NOTE: Wetland/Other Surface Water limits pending FDEP and Corps verification.



Document Path: \\mountdora\mountdora-data\GIS\CADD\HPS Enterprises\HPS II Bradford Co Phosphate Mine\03-0000\County SUP\16-0420--HPS Bradford SUP-LU.mxd



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend	
	Project Boundary (5,352.62 Ac.±)
	Section/Township/Range
Land Use	
	211--Improved Pastures
	214--Row Crops
	434--Hardwood - Conifer Mixed
	441--Coniferous Plantations
	610--Wetland Hardwood Forests
	630--Wetland Forested Mixed
	640--Vegetated Non-Forested Wetlands



PROJECT NO.	20163103.001A
DRAWN:	4/20/2016
DRAWN BY:	NL
CHECKED BY:	EJM
FILE NAME:	16-0420--HPS Bradford SUP-LU.mxd

Land Use Map - View 6
HPS II Enterprises Mining Master Plan Bradford County, Florida

FIGURE	8G
--------	----

NOTE: Wetland/Other Surface Water limits pending FDEP and Corps verification.

19,-6,20

23,-6,19

24,-6,19

30,-6,20

25,-6,19

26,-6,19

36,-6,19

610

31,-6,20

35,-6,19



1 inch = 900 feet

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend

- Project Boundary (5,352.62 Ac.±)
 - 610--Wetland Hardwood Forests
 - Section/Township/Range
- Land Use



PROJECT NO. 20163103.001A
 DRAWN: 4/20/2016
 DRAWN BY: NL
 CHECKED BY: EJM
 FILE NAME: 16-0420--HPS
 Bradford SUP-LU.mxd

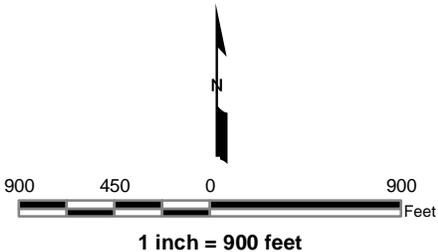
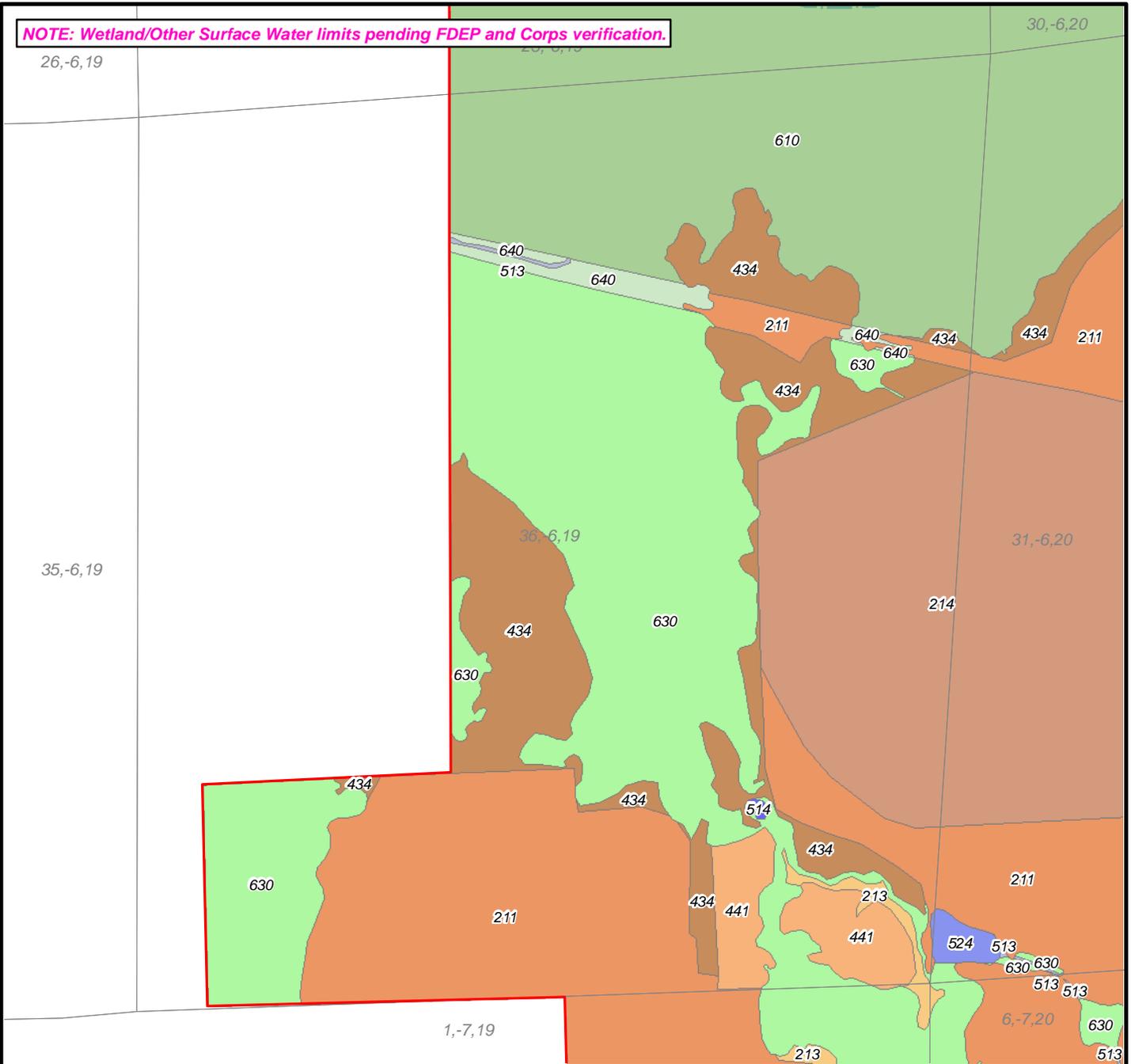
Land Use Map - View 7

**HPS II Enterprises
 Mining Master Plan
 Bradford County, Florida**

FIGURE

8H

NOTE: Wetland/Other Surface Water limits pending FDEP and Corps verification.



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend	
	Project Boundary (5,352.62 Ac.±)
	Section/Township/Range
	211--Improved Pastures
	213--Woodland Pastures
	214--Row Crops
	434--Hardwood - Conifer Mixed
	441--Coniferous Plantations
	513--Ditches
	514--Cattle Pond
	524--Lakes less than 10 acres
	610--Wetland Hardwood Forests
	630--Wetland Forested Mixed
	640--Vegetated Non-Forested Wetlands

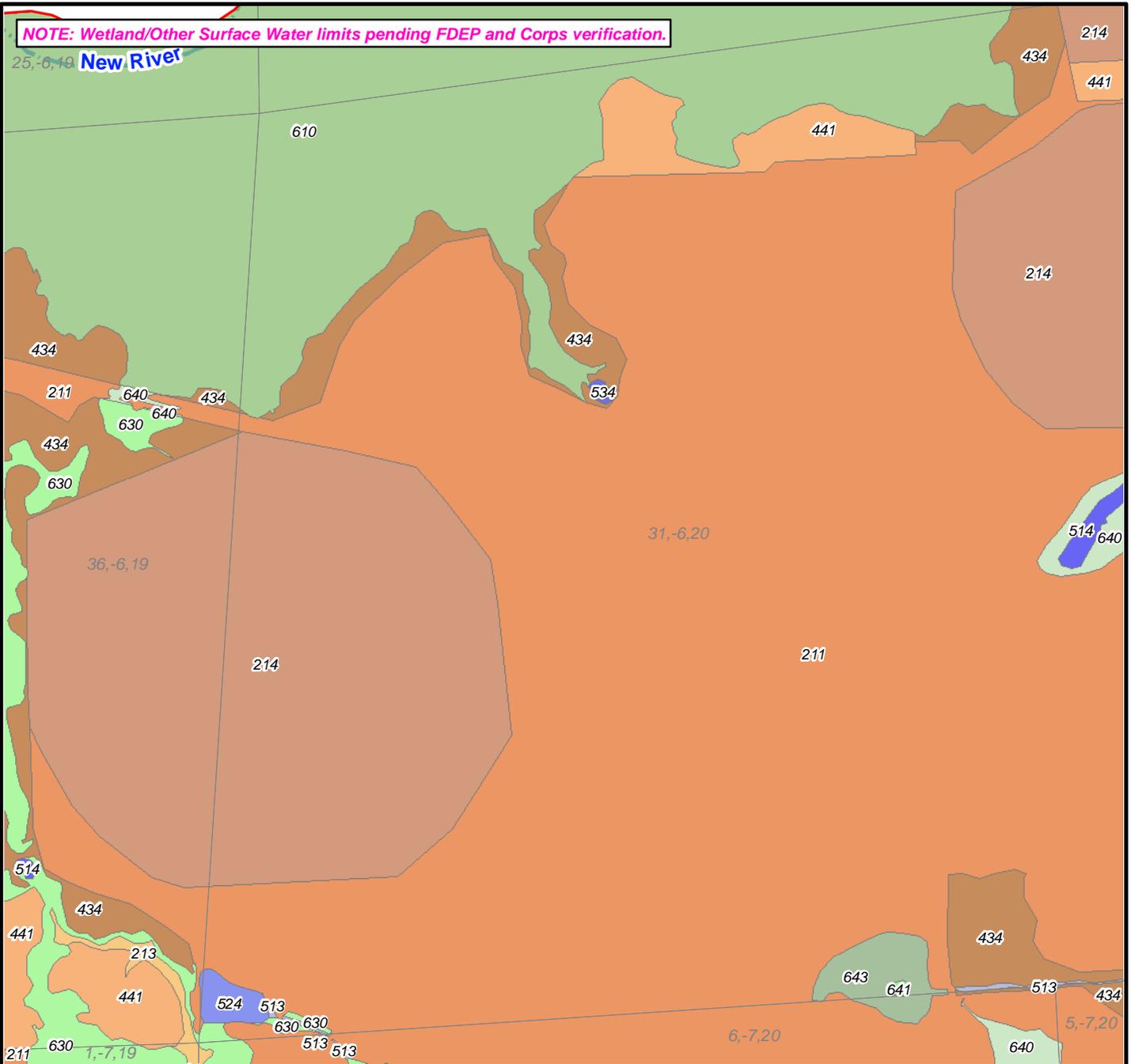
Document Path: \\mountain\dorad\DATA\GIS\CADD\HPS Enterprises Inc\20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000 County SUP\16-0420--HPS Bradford SUP-LU.mxd

<p>KLEINFELDER Bright People. Right Solutions. www.kleinfelder.com</p>	PROJECT NO. 20163103.001A	Land Use Map - View 8	FIGURE
	DRAWN: 4/20/2016		<p>HPS II Enterprises Mining Master Plan Bradford County, Florida</p>
	DRAWN BY: NL	CHECKED BY: EJM	
	FILE NAME: 16-0420--HPS Bradford SUP-LU.mxd		

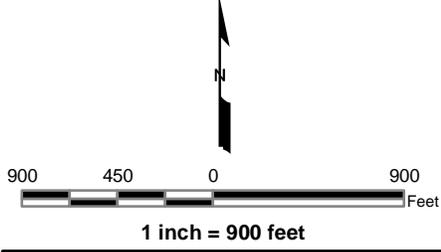
NOTE: Wetland/Other Surface Water limits pending FDEP and Corps verification.

25,-6,19 **New River**

Document Path: \\mountdora\MOUNTDORA-DATA\GIS\CADD\HPS Enterprises\Incl20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000 County SUP\16-0420-HPS Bradford SUP-LU.mxd



Legend	
	Project Boundary (5,352.62 Ac.±)
	Section/Township/Range
Land Use	
	211--Improved Pastures
	213--Woodland Pastures
	214--Row Crops
	434--Hardwood - Conifer Mixed
	441--Coniferous Plantations
	513--Ditches
	514--Cattle Pond
	524--Lakes less than 10 acres
	534--Reservoirs less than 10 acres
	610--Wetland Hardwood Forests
	630--Wetland Forested Mixed
	640--Vegetated Non-Forested Wetlands
	641--Freshwater Marshes
	643--Wet Prairies



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

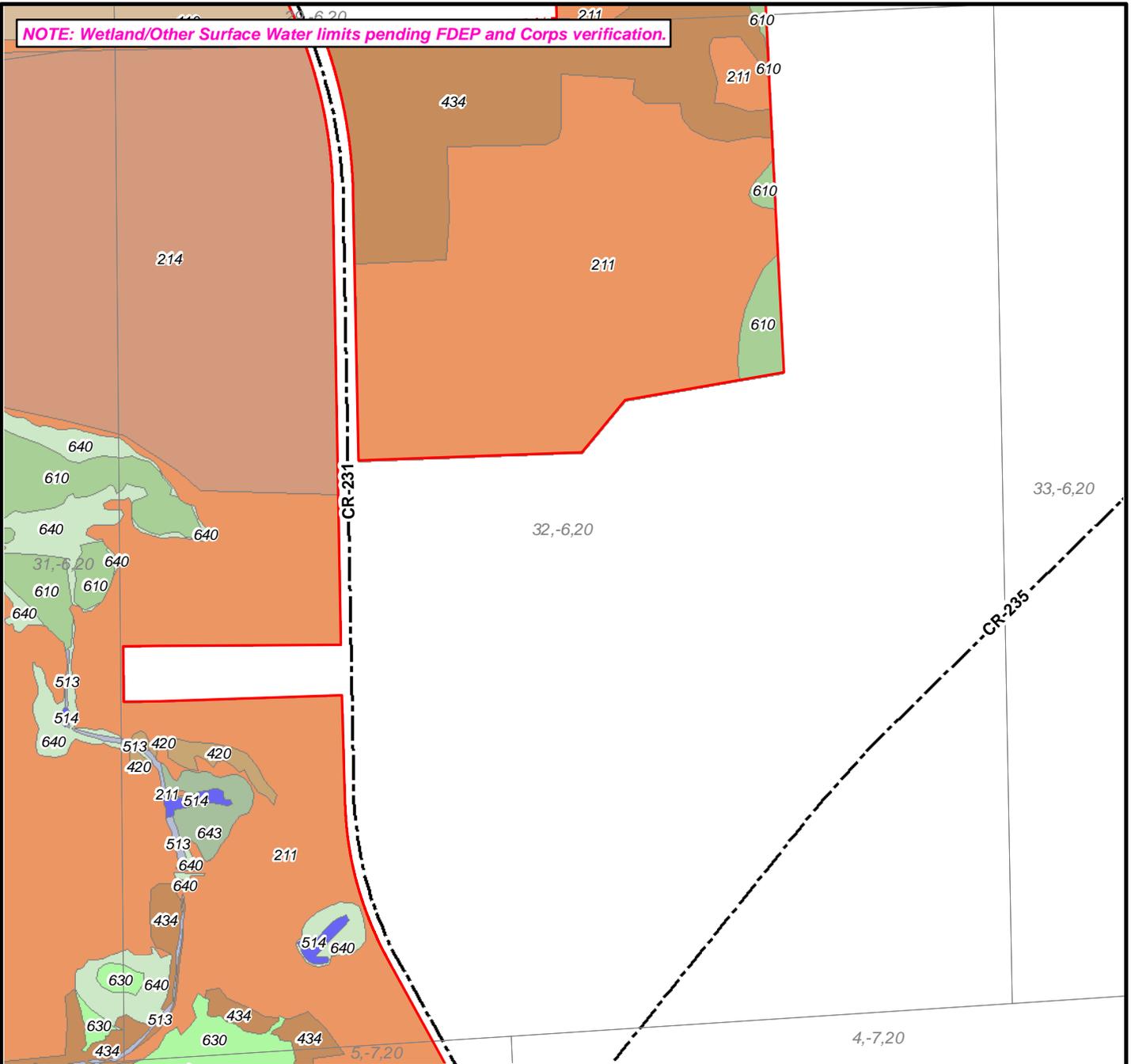
PROJECT NO.	20163103.001A
DRAWN:	4/20/2016
DRAWN BY:	NL
CHECKED BY:	EJM
FILE NAME:	16-0420--HPS Bradford SUP-LU.mxd

Land Use Map - View 9

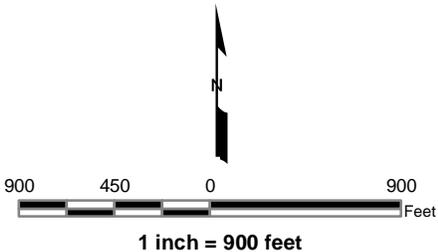
**HPS II Enterprises
Mining Master Plan
Bradford County, Florida**

FIGURE
8J

NOTE: Wetland/Other Surface Water limits pending FDEP and Corps verification.



Document Path: \\mountdora\MOUNTDORA-DATA\GIS\CAD\HPS Enterprises Inc\20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000 County SUP\16-0420-HPS Bradford SUP-LU.mxd



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend	
 Project Boundary (5,352.62 Ac.±)	 434--Hardwood - Conifer Mixed
 Section/Township/Range	 513--Ditches
 110--Residential, Low Density	 514--Cattle Pond
 211--Improved Pastures	 610--Wetland Hardwood Forests
 214--Row Crops	 630--Wetland Forested Mixed
 420--Upland Hardwood Forests	 640--Vegetated Non-Forested Wetlands
	 643--Wet Prairies

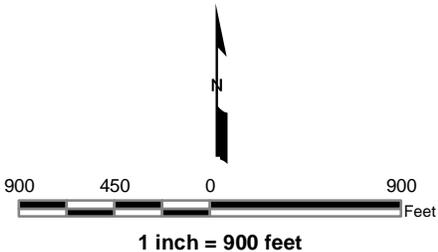
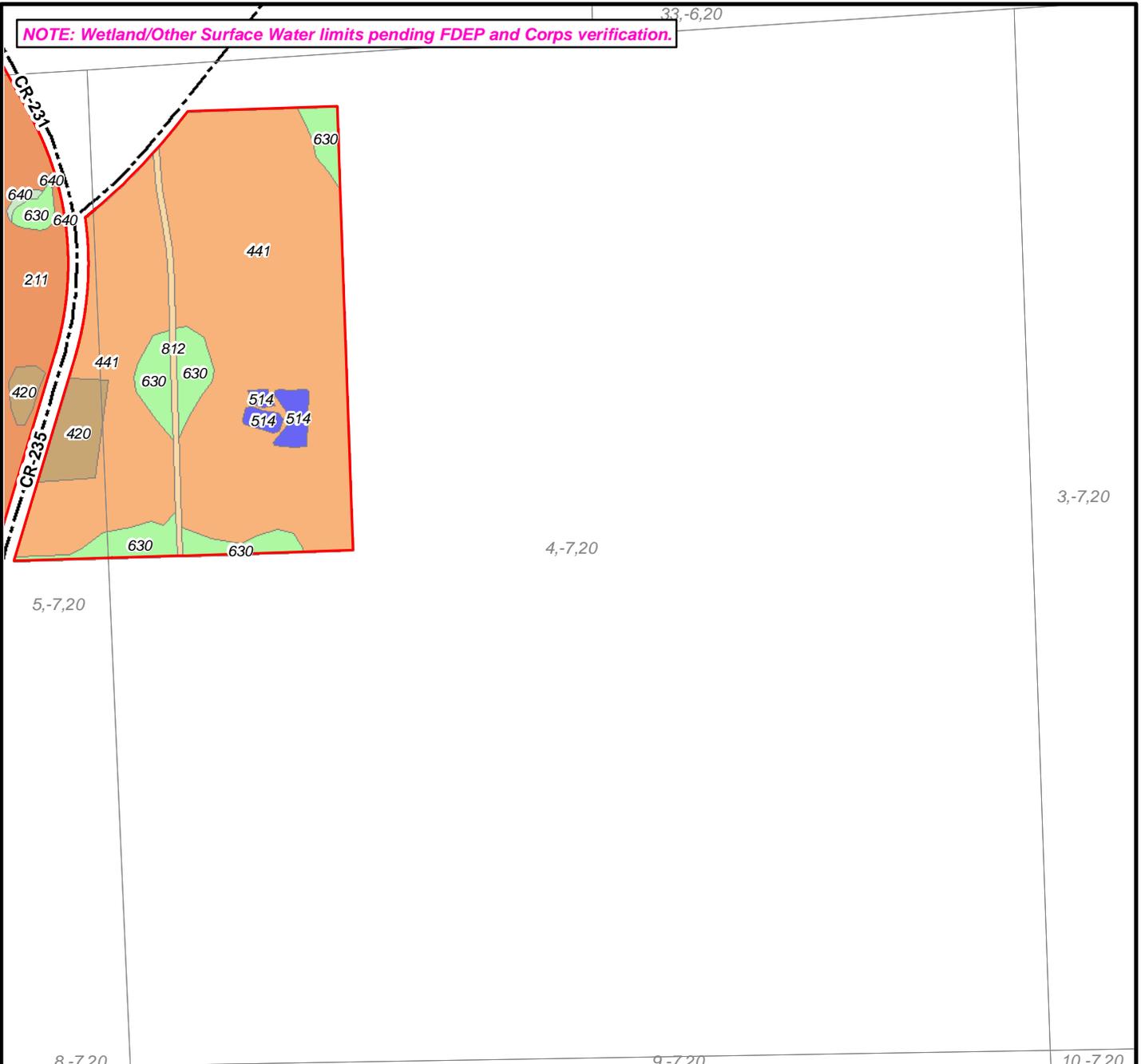


PROJECT NO.	20163103.001A
DRAWN:	4/20/2016
DRAWN BY:	NL
CHECKED BY:	EJM
FILE NAME:	16-0420--HPS Bradford SUP-LU.mxd

Land Use Map - View 11
HPS II Enterprises Mining Master Plan Bradford County, Florida

FIGURE	8L
--------	----

NOTE: Wetland/Other Surface Water limits pending FDEP and Corps verification.



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend	
	Project Boundary (5,352.62 Ac.±)
	Section/Township/Range
	441--Coniferous Plantations
	514--Cattle Pond
	211--Improved Pastures
	630--Wetland Forested Mixed
	420--Upland Hardwood Forests
	640--Vegetated Non-Forested Wetlands
	812--Railroads

Document Path: \\mountdora\MOUNTDORA-DATA\GIS\CAD\HPS Enterprises\Incl20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000 County SUP\16-0420--HPS Bradford SUP-LU.mxd

KLEINFELDER
Bright People. Right Solutions.
www.kleinfelder.com

PROJECT NO.	20163103.001A
DRAWN:	4/20/2016
DRAWN BY:	NL
CHECKED BY:	EJM
FILE NAME:	16-0420--HPS Bradford SUP-LU.mxd

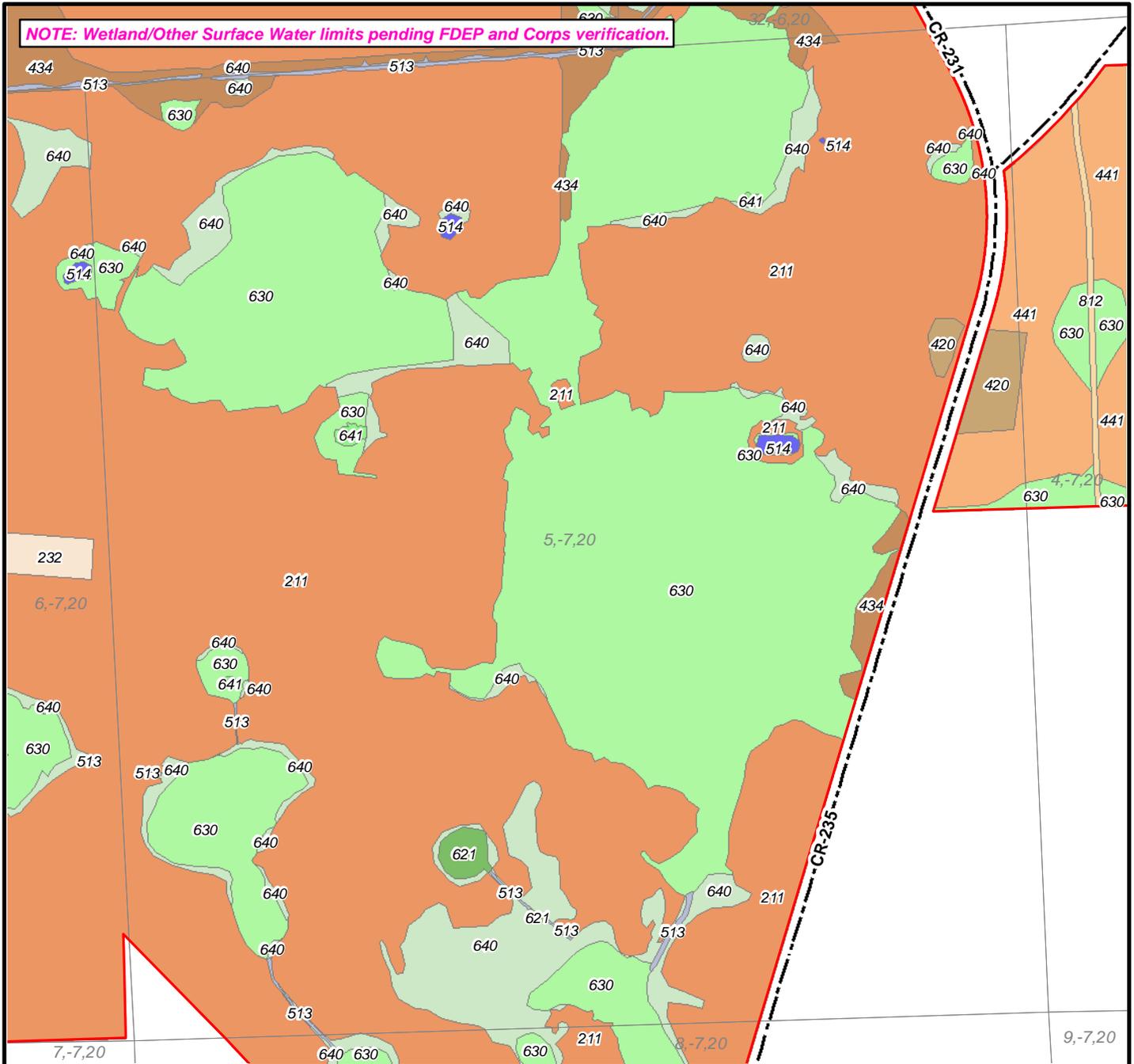
Land Use Map - View 12

**HPS II Enterprises
Mining Master Plan
Bradford County, Florida**

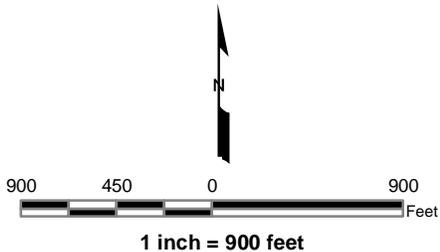
FIGURE

8M

NOTE: Wetland/Other Surface Water limits pending FDEP and Corps verification.



Document Path: \\mountain\MOUNTDORA-DATA\GIS\CAD\HPS Enterprises Inc\20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000 County SUP\16-0420--HPS Bradford SUP-LU.mxd



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend	
	Project Boundary (5,352.62 Ac.±)
	Section/Township/Range
	211--Improved Pastures
	232--Poultry Feeding Operations
	420--Upland Hardwood Forests
	434--Hardwood - Conifer Mixed
	441--Coniferous Plantations
	513--Ditches
	514--Cattle Pond
	621--Cypress
	630--Wetland Forested Mixed
	640--Vegetated Non-Forested Wetlands
	641--Freshwater Marshes
	812--Railroads

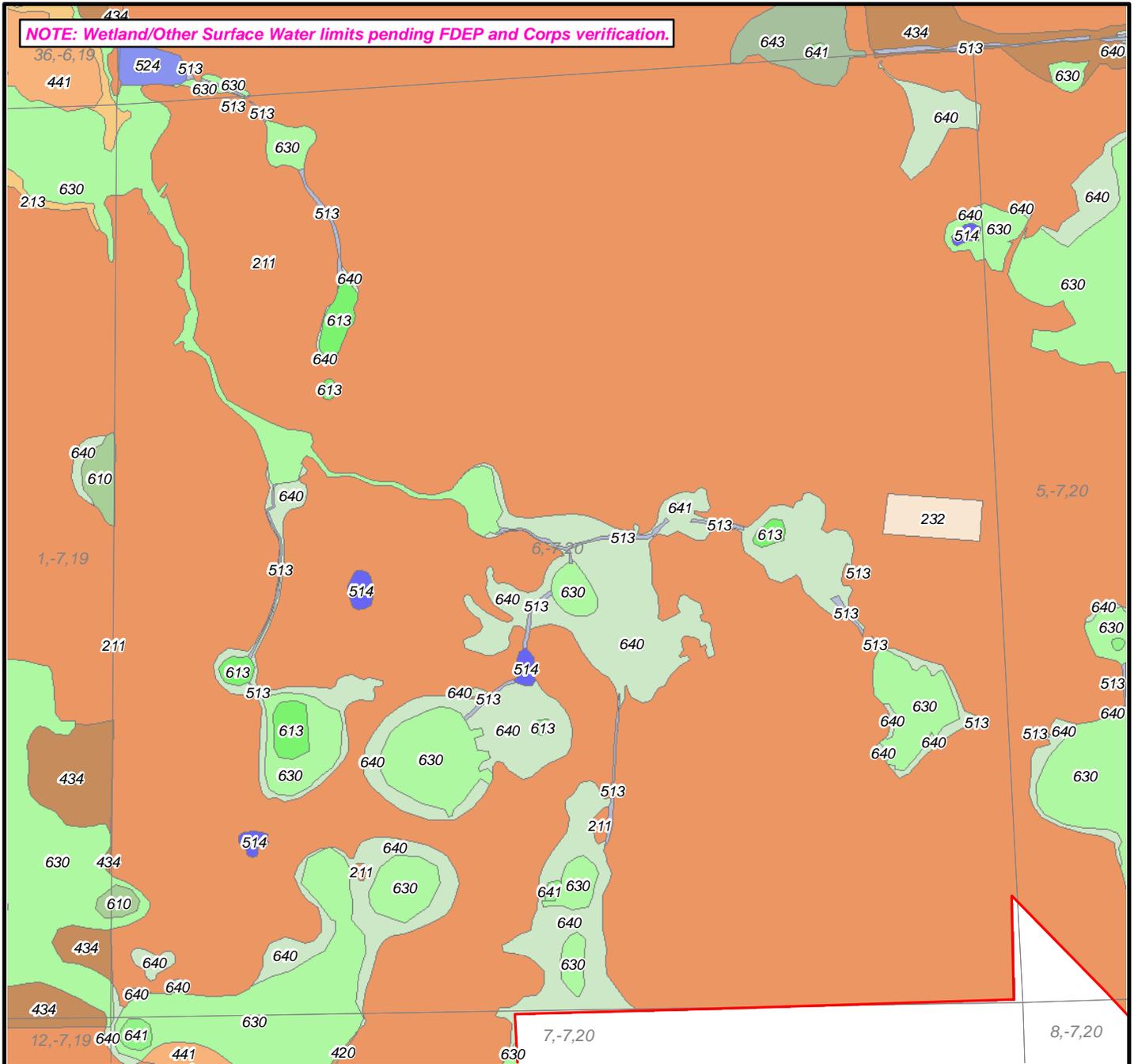


PROJECT NO.	20163103.001A
DRAWN:	4/20/2016
DRAWN BY:	NL
CHECKED BY:	EJM
FILE NAME:	16-0420--HPS Bradford SUP-LU.mxd

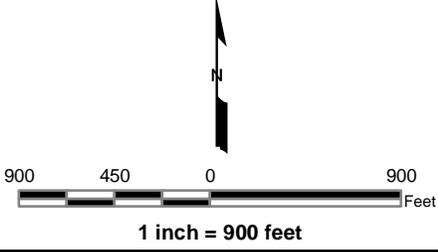
Land Use Map - View 13
HPS II Enterprises Mining Master Plan Bradford County, Florida

FIGURE	8N
--------	----

NOTE: Wetland/Other Surface Water limits pending FDEP and Corps verification.



Document Path: \\mountdora\MOUNTDORA-DATA\GIS\CAD\HPS Enterprises Inc\20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000 County SUP\16-0420-HPS Bradford SUP-LU.mxd



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

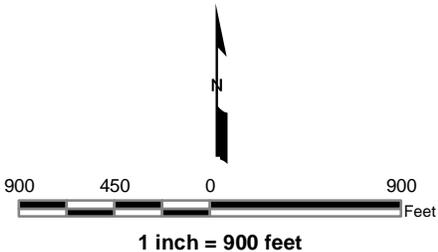
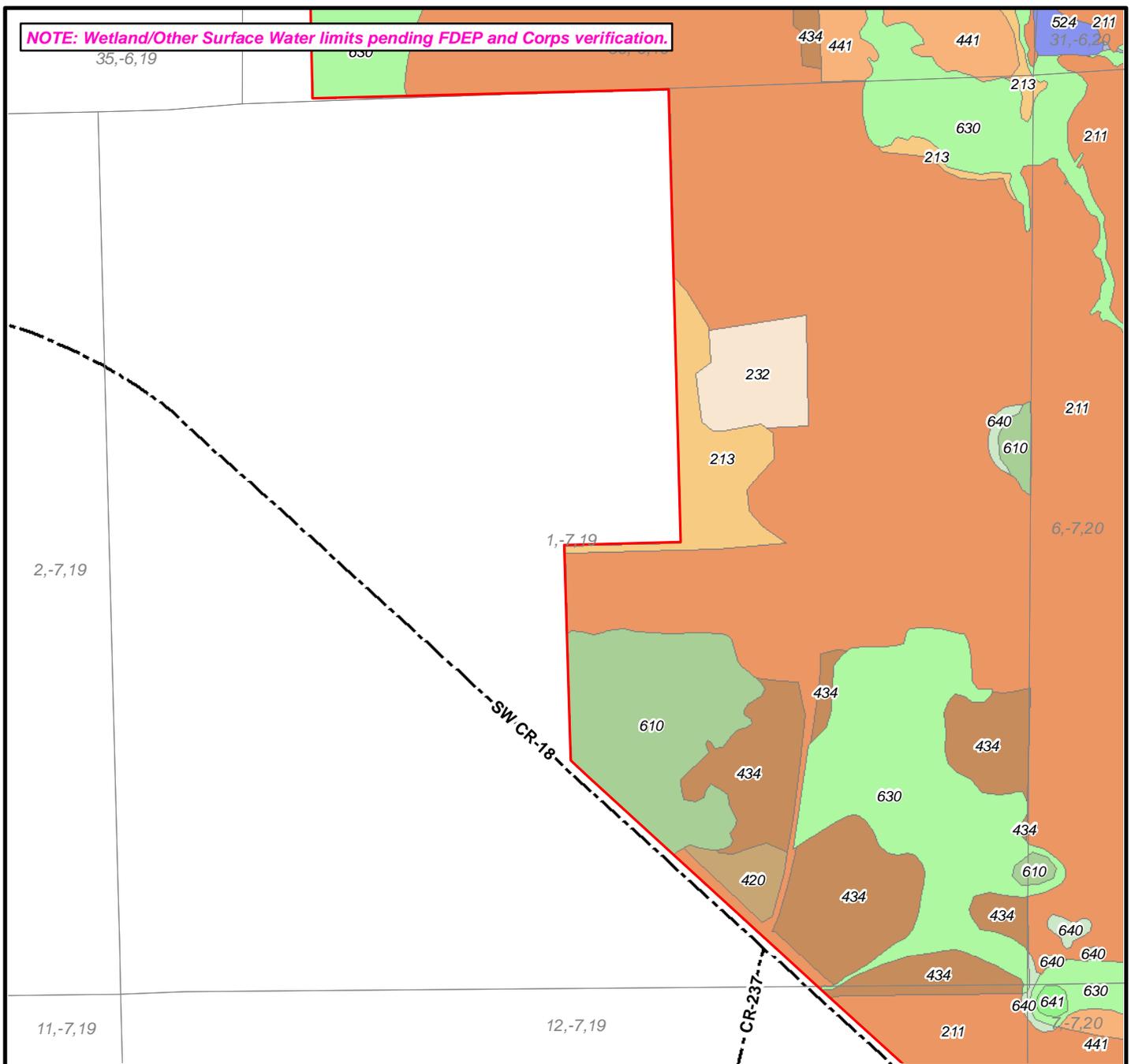
Legend	
 Project Boundary (5,352.62 Ac.±)	 513--Ditches
 Section/Township/Range	 514--Cattle Pond
Land Use	
 211--Improved Pastures	 524--Lakes less than 10 acres
 213--Woodland Pastures	 610--Wetland Hardwood Forests
 232--Poultry Feeding Operations	 613--Gum Swamps
 420--Upland Hardwood Forests	 630--Wetland Forested Mixed
 434--Hardwood - Conifer Mixed	 640--Vegetated Non-Forested Wetlands
 441--Coniferous Plantations	 641--Freshwater Marshes
	 643--Wet Prairies

PROJECT NO.	20163103.001A
DRAWN:	4/20/2016
DRAWN BY:	NL
CHECKED BY:	EJM
FILE NAME:	16-0420--HPS Bradford SUP-LU.mxd

Land Use Map - View 14
HPS II Enterprises Mining Master Plan Bradford County, Florida

FIGURE	80
--------	----

NOTE: Wetland/Other Surface Water limits pending FDEP and Corps verification.



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend	
	Project Boundary (5,352.62 Ac.±)
	Section/Township/Range
Land Use	
	211--Improved Pastures
	213--Woodland Pastures
	232--Poultry Feeding Operations
	420--Upland Hardwood Forests
	434--Hardwood - Conifer Mixed
	441--Coniferous Plantations
	513--Ditches
	524--Lakes less than 10 acres
	610--Wetland Hardwood Forests
	630--Wetland Forested Mixed
	640--Vegetated Non-Forested Wetlands
	641--Freshwater Marshes



PROJECT NO. 20163103.001A
 DRAWN: 4/20/2016
 DRAWN BY: NL
 CHECKED BY: EJM
 FILE NAME: 16-0420--HPS
 Bradford SUP-LU.mxd

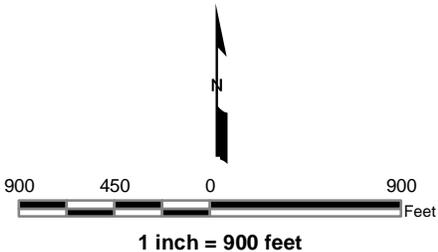
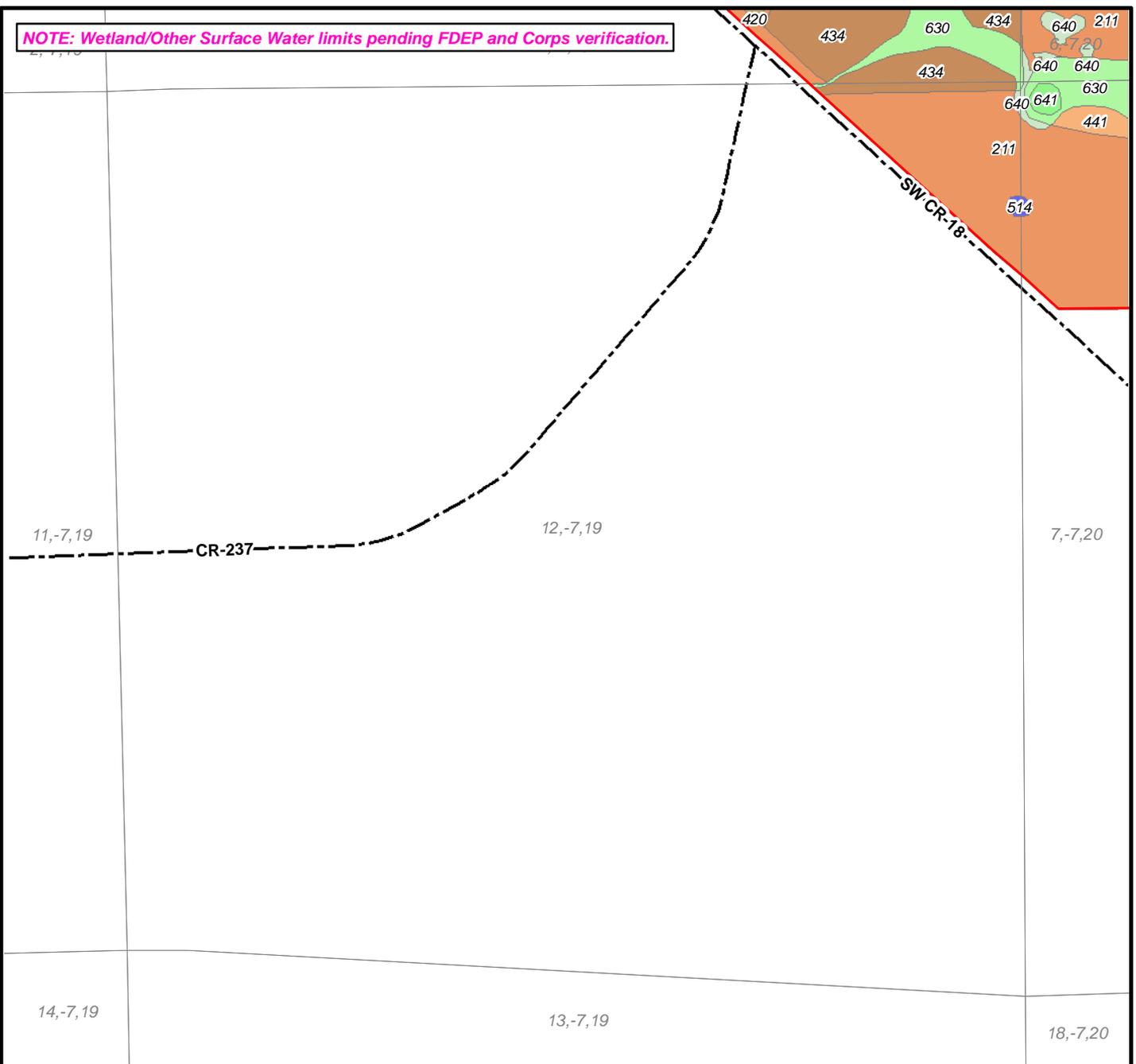
Land Use Map - View 15

**HPS II Enterprises
 Mining Master Plan
 Bradford County, Florida**

FIGURE
8P

Document Path: \\mountdora\MOUNTDORA-DATA\GIS\CAD\HPS Enterprises\Incl\20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000 County SUP\16-0420--HPS Bradford SUP-LU.mxd

NOTE: Wetland/Other Surface Water limits pending FDEP and Corps verification.



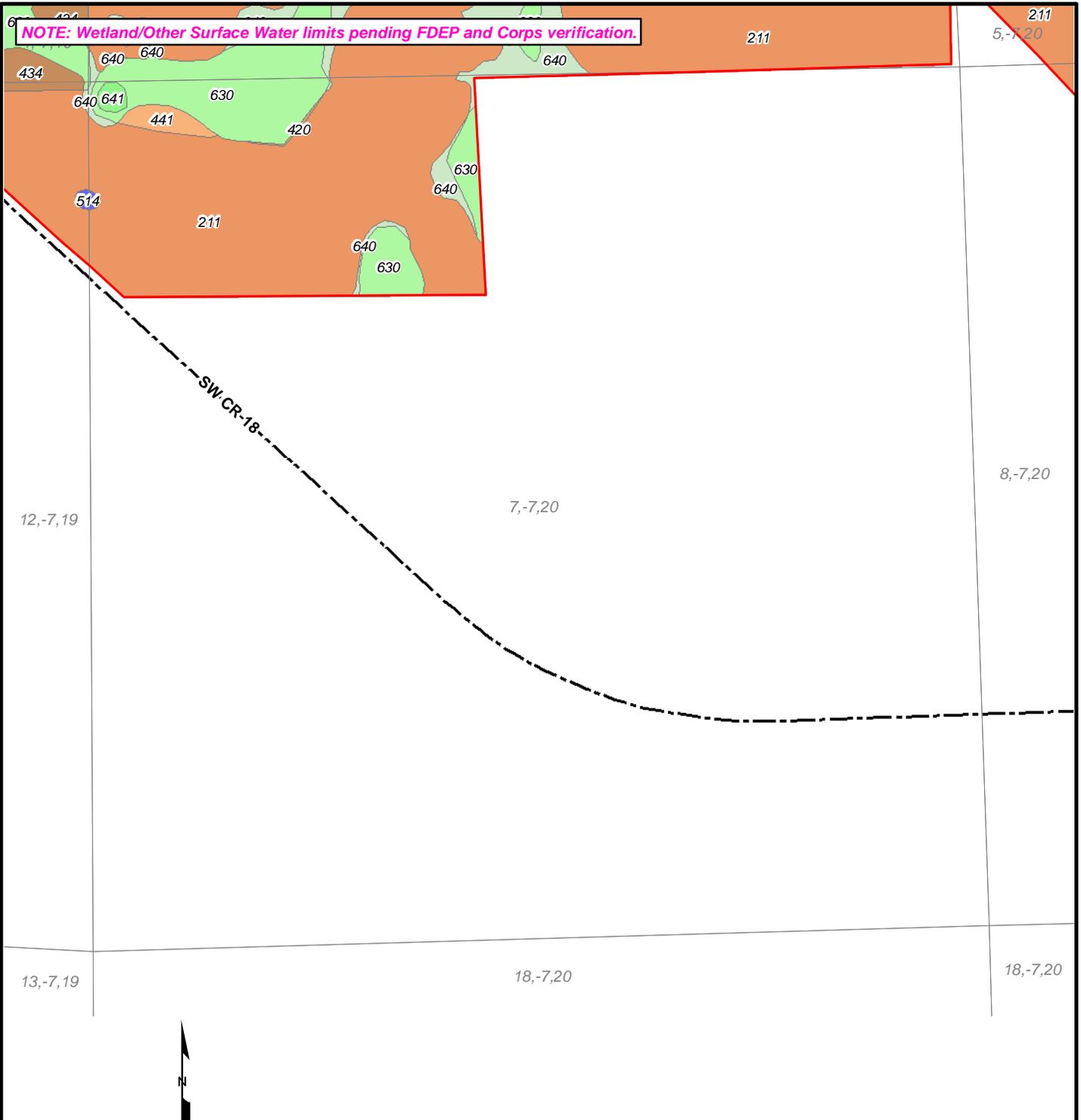
The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend	
	Project Boundary (5,352.62 Ac.±)
	Section/Township/Range
Land Use	
	211--Improved Pastures
	420--Upland Hardwood Forests
	434--Hardwood - Conifer Mixed
	441--Coniferous Plantations
	514--Cattle Pond
	630--Wetland Forested Mixed
	640--Vegetated Non-Forested Wetlands
	641--Freshwater Marshes

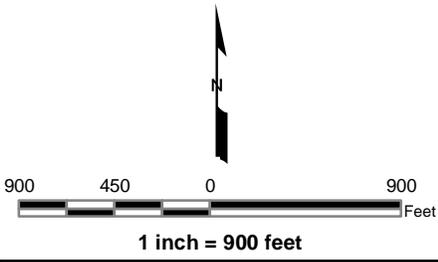
Document Path: \\mountdora\mountdora-data\GIS\CADD\HPS Enterprises\HPS II Bradford Co Phosphate Mine\03-0000\County SUP\16-0420--HPS Bradford SUP-LU.mxd

	PROJECT NO. 20163103.001A	Land Use Map - View 16	FIGURE
	DRAWN: 4/20/2016		
	DRAWN BY: NL	HPS II Enterprises Mining Master Plan Bradford County, Florida	8Q
	CHECKED BY: EJM		
FILE NAME: 16-0420--HPS Bradford SUP-LU.mxd			

Document Path: \\mountdora\MOUNTDORA-DATA\GIS\CADD\HPS Enterprises Inc\20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000 County SUP\16-0420--HPS Bradford SUP-LU.mxd



NOTE: Wetland/Other Surface Water limits pending FDEP and Corps verification.



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend	
 Project Boundary (5,352.62 Ac.±)	 441--Coniferous Plantations
 Section/Township/Range	 514--Cattle Pond
Land Use	
 211--Improved Pastures	 630--Wetland Forested Mixed
 420--Upland Hardwood Forests	 640--Vegetated Non-Forested Wetlands
 434--Hardwood - Conifer Mixed	 641--Freshwater Marshes

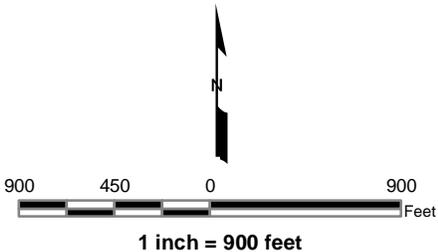
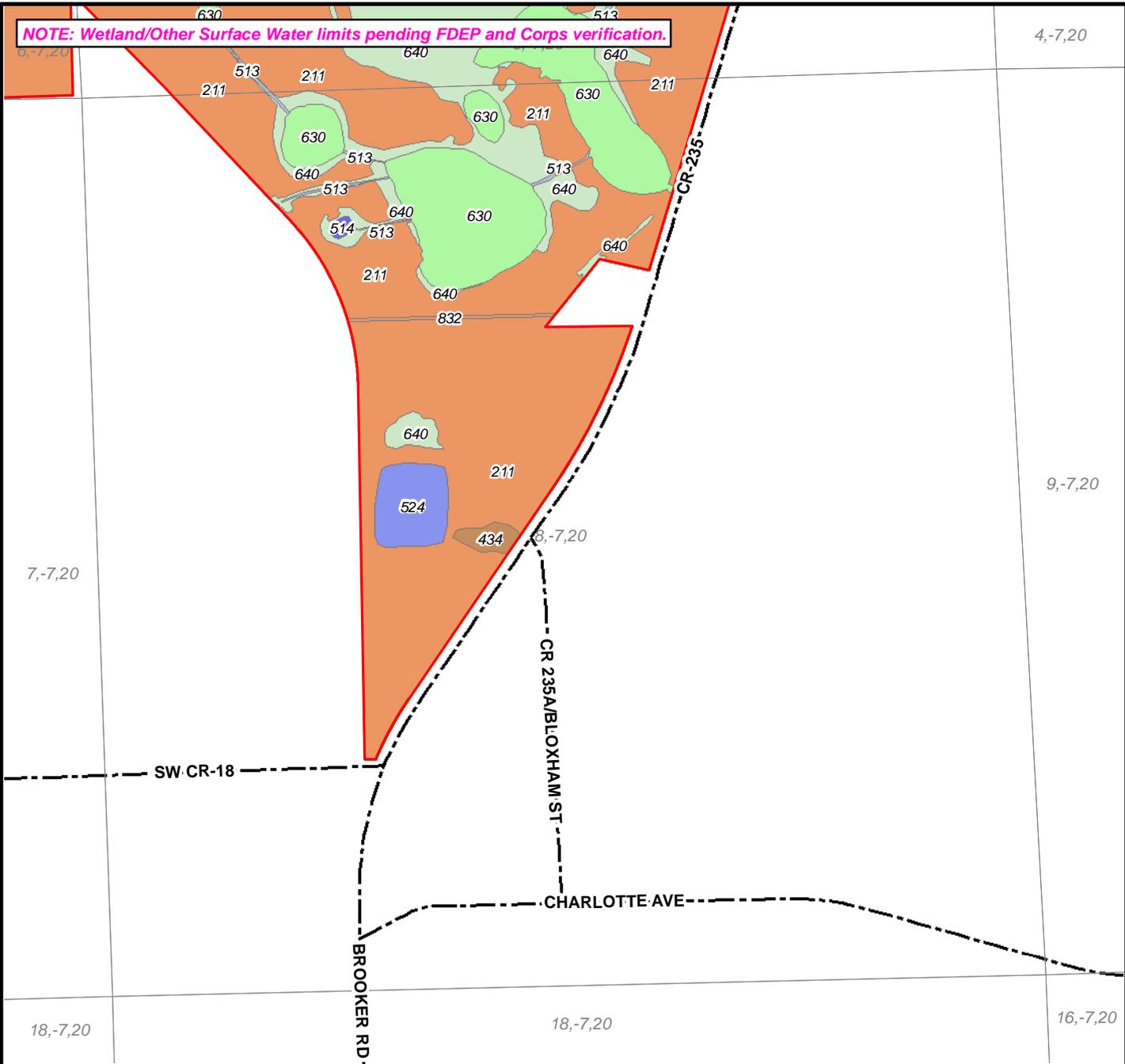


PROJECT NO.	20163103.001A
DRAWN:	4/20/2016
DRAWN BY:	NL
CHECKED BY:	EJM
FILE NAME:	16-0420--HPS Bradford SUP-LU.mxd

Land Use Map - View 17
HPS II Enterprises Mining Master Plan Bradford County, Florida

FIGURE	8R
--------	----

NOTE: Wetland/Other Surface Water limits pending FDEP and Corps verification.



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend	
	Project Boundary (5,352.62 Ac.±)
	Section/Township/Range
	211--Improved Pastures
	330--Wetland Forested Mixed
	640--Vegetated Non-Forested Wetlands
	434--Hardwood - Conifer Mixed
	832--Electrical Power Transmission Lines
	513--Ditches
	514--Cattle Pond
	524--Lakes less than 10 acres



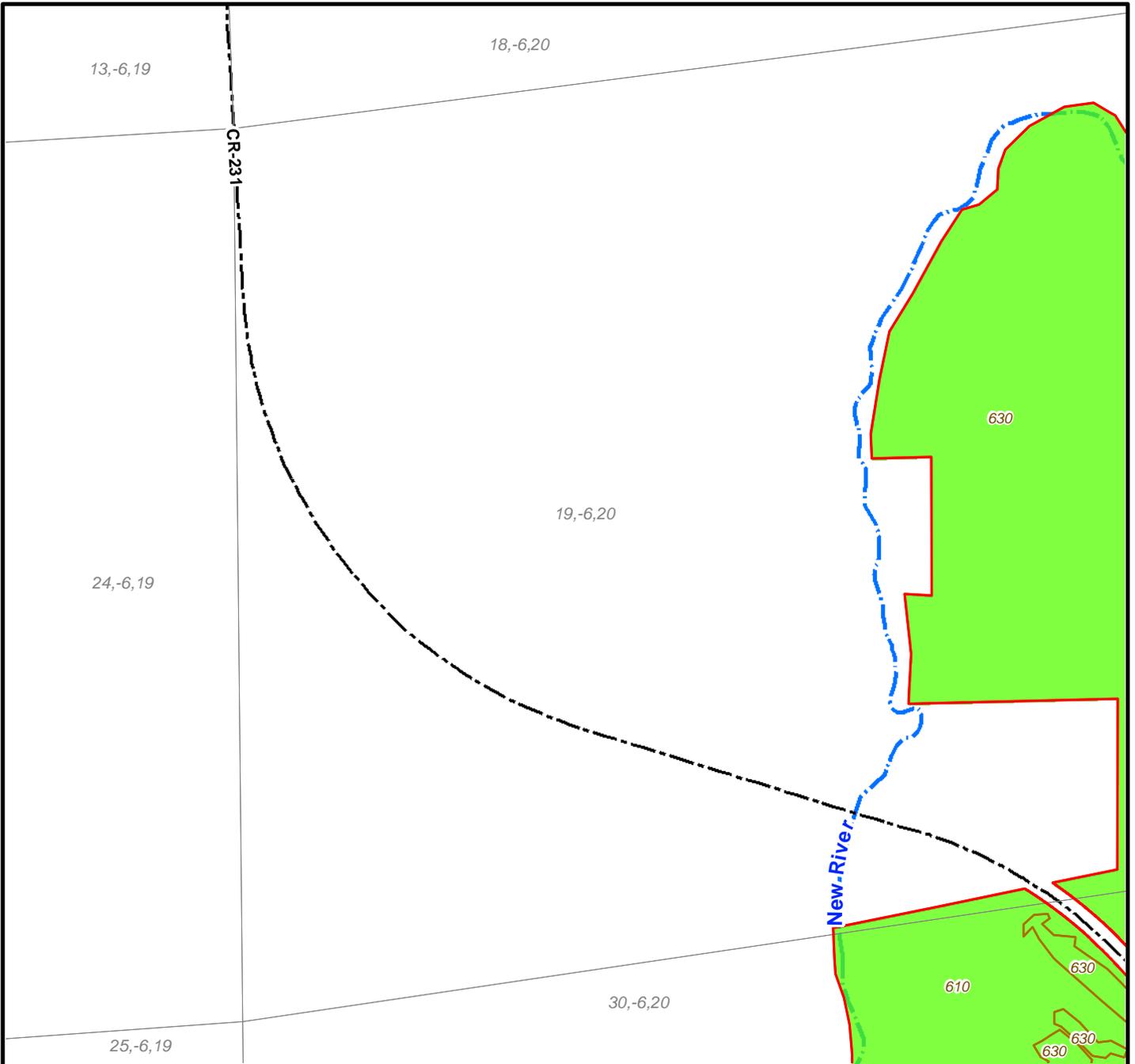
PROJECT NO.	20163103.001A
DRAWN:	4/20/2016
DRAWN BY:	NL
CHECKED BY:	EJM
FILE NAME:	16-0420--HPS Bradford SUP-LU.mxd

Land Use Map - View 18
HPS II Enterprises Mining Master Plan Bradford County, Florida

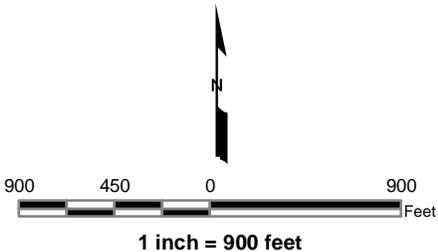
FIGURE	8S
--------	----

Document Path: \\mountdora\MOUNTDORA-DATA\GIS\CADD\HPS Enterprises Inc\20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000 County SUP\16-0420--HPS Bradford SUP-LU.mxd

Document Path: \\mountdora\MOUNTDORA-DATA\GIS\CADD\HPS Enterprises\16-0420--HPS Enterprises\HPS II Bradford Co Phosphate Mine\03-0000\County SUP\16-0420--HPS Bradford SUP-WetOSW.mxd



NOTE: Wetland/Other Surface Water limits pending FDEP and Corps verification.



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend	
	Project Boundary (5,352.62 Ac.±)
	Section/Township/Range
	Wetland (2,161.78 Ac.±)
	Land Use



PROJECT NO.	20163103.001A
DRAWN:	4/20/2016
DRAWN BY:	NL
CHECKED BY:	EJM
FILE NAME:	16-0420--HPS Bradford SUP-WetOSW.mxd

Wetland/OSW Location Map
View 1

**HPS II Enterprises
Mining Master Plan
Bradford County, Florida**

FIGURE
9B

17,-6,20

18,-6,20

New River

20,-6,20

19,-6,20

630

640

CR-231

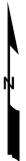
29,-6,20

610

30,-6,20

630

NOTE: Wetland/Other Surface Water limits pending FDEP and Corps verification.



900 450 0 900 Feet

1 inch = 900 feet

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend

- Project Boundary (5,352.62 Ac.±)
- Section/Township/Range
- Wetland (2,161.78 Ac.±)
- Land Use



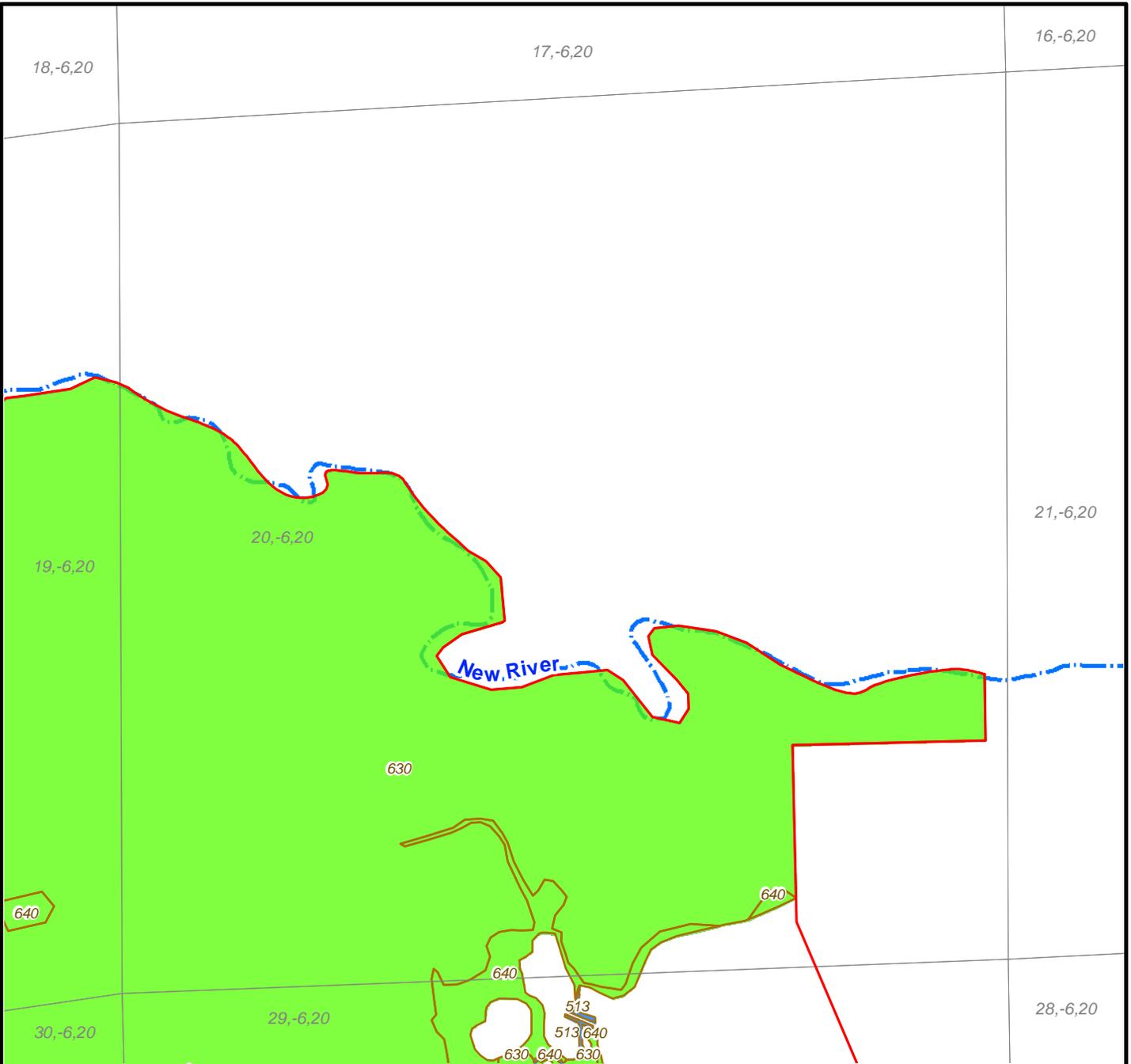
PROJECT NO. 20163103.001A
 DRAWN: 4/20/2016
 DRAWN BY: NL
 CHECKED BY: EJM
 FILE NAME: 16-0420--HPS
 Bradford SUP-WetOSW.mxd

Wetland/OSW Location Map
View 2

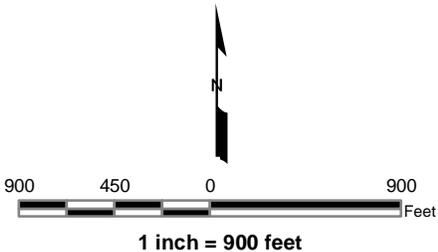
HPS II Enterprises
Mining Master Plan
Bradford County, Florida

FIGURE
9C

Document Path: \\mountdora\MOUNTDORA-DATA\GIS\CADD\HPS Enterprises\16-0420\16-0420--HPS Enterprises\HPS II Bradford Co Phosphate Mine\03-0000\County SUP\16-0420--HPS Bradford SUP-WetOSW.mxd



NOTE: Wetland/Other Surface Water limits pending FDEP and Corps verification.



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend	
	Project Boundary (5,352.62 Ac.±)
	Section/Township/Range
	Wetland (2,161.78 Ac.±)
	Other Surface Water (25.77 Ac.±)
	Land Use



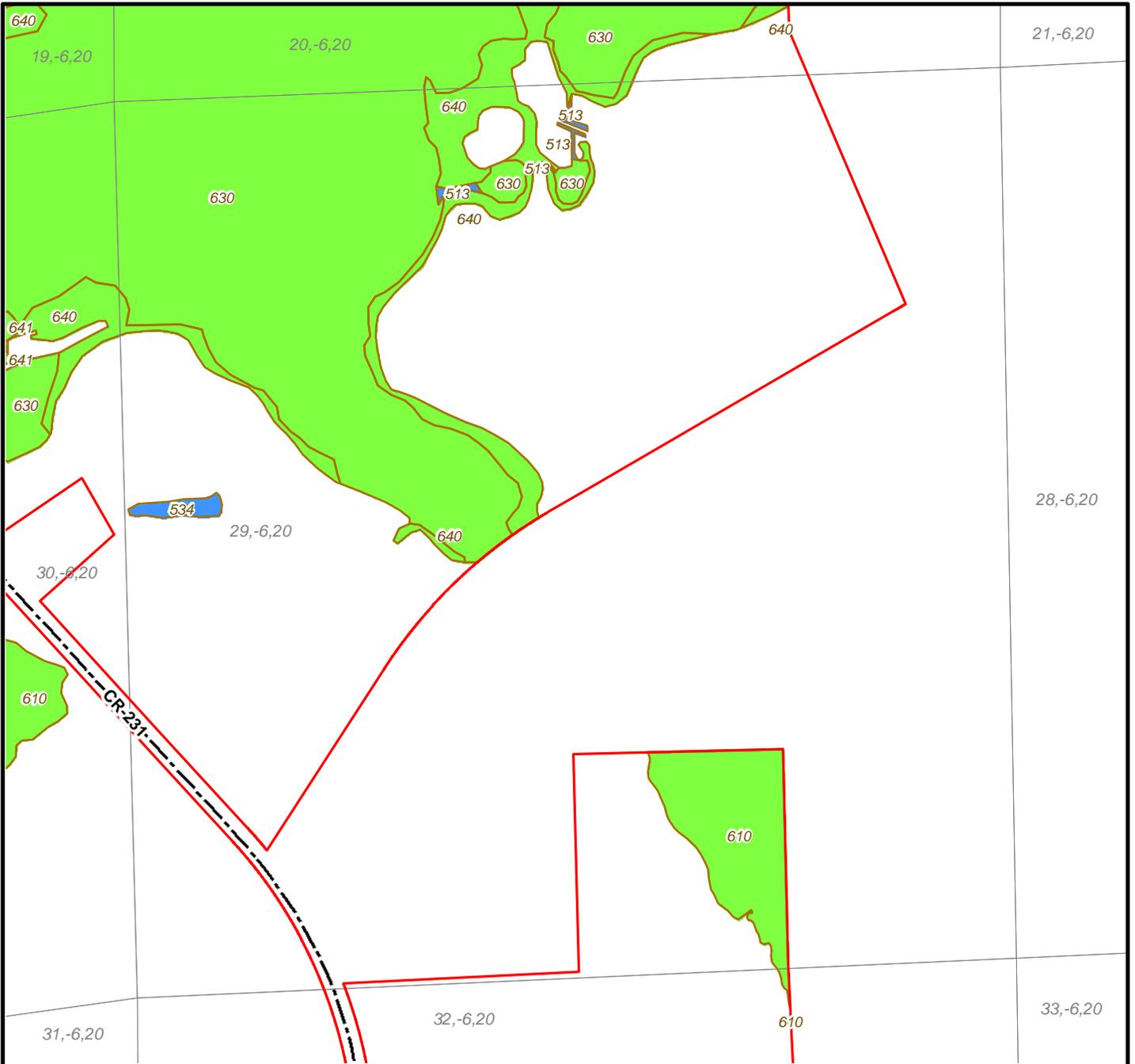
PROJECT NO.	20163103.001A
DRAWN:	4/20/2016
DRAWN BY:	NL
CHECKED BY:	EJM
FILE NAME:	16-0420--HPS Bradford SUP-WetOSW.mxd

Wetland/OSW Location Map
View 3

**HPS II Enterprises
Mining Master Plan
Bradford County, Florida**

FIGURE
9D

Document Path: \\mountdora\mountdora-data\GIS\CADD\HPS Enterprises\16-0420--HPS Enterprises\HPS II Bradford Co Phosphate Mine\03-0000\County SUP\16-0420--HPS Bradford SUP-WetOSW.mxd



NOTE: Wetland/Other Surface Water limits pending FDEP and Corps verification.

900 450 0 900
Feet

1 inch = 900 feet

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend	
	Project Boundary (5,352.62 Ac.±)
	Section/Township/Range
	Wetland (2,161.78 Ac.±)
	Other Surface Water (25.77 Ac.±)
	Land Use



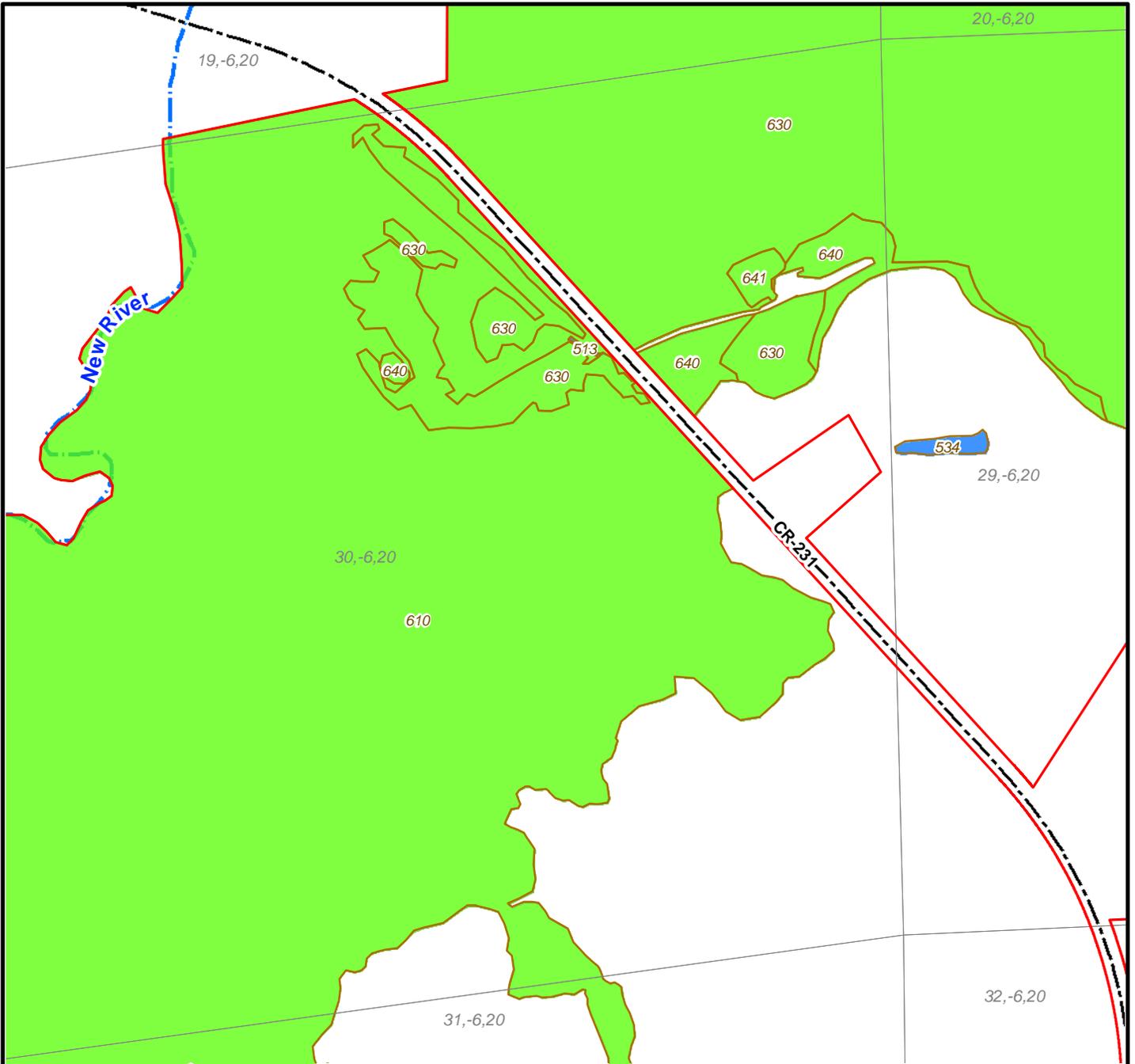
PROJECT NO.	20163103.001A
DRAWN:	4/20/2016
DRAWN BY:	NL
CHECKED BY:	EJM
FILE NAME:	16-0420--HPS Bradford SUP-WetOSW.mxd

Wetland/OSW Location Map
View 4

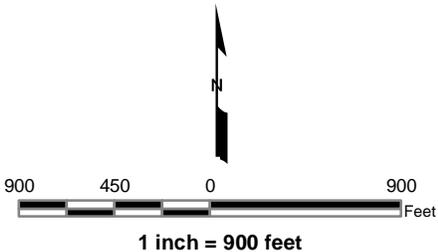
**HPS II Enterprises
Mining Master Plan
Bradford County, Florida**

FIGURE

9E



NOTE: Wetland/Other Surface Water limits pending FDEP and Corps verification.

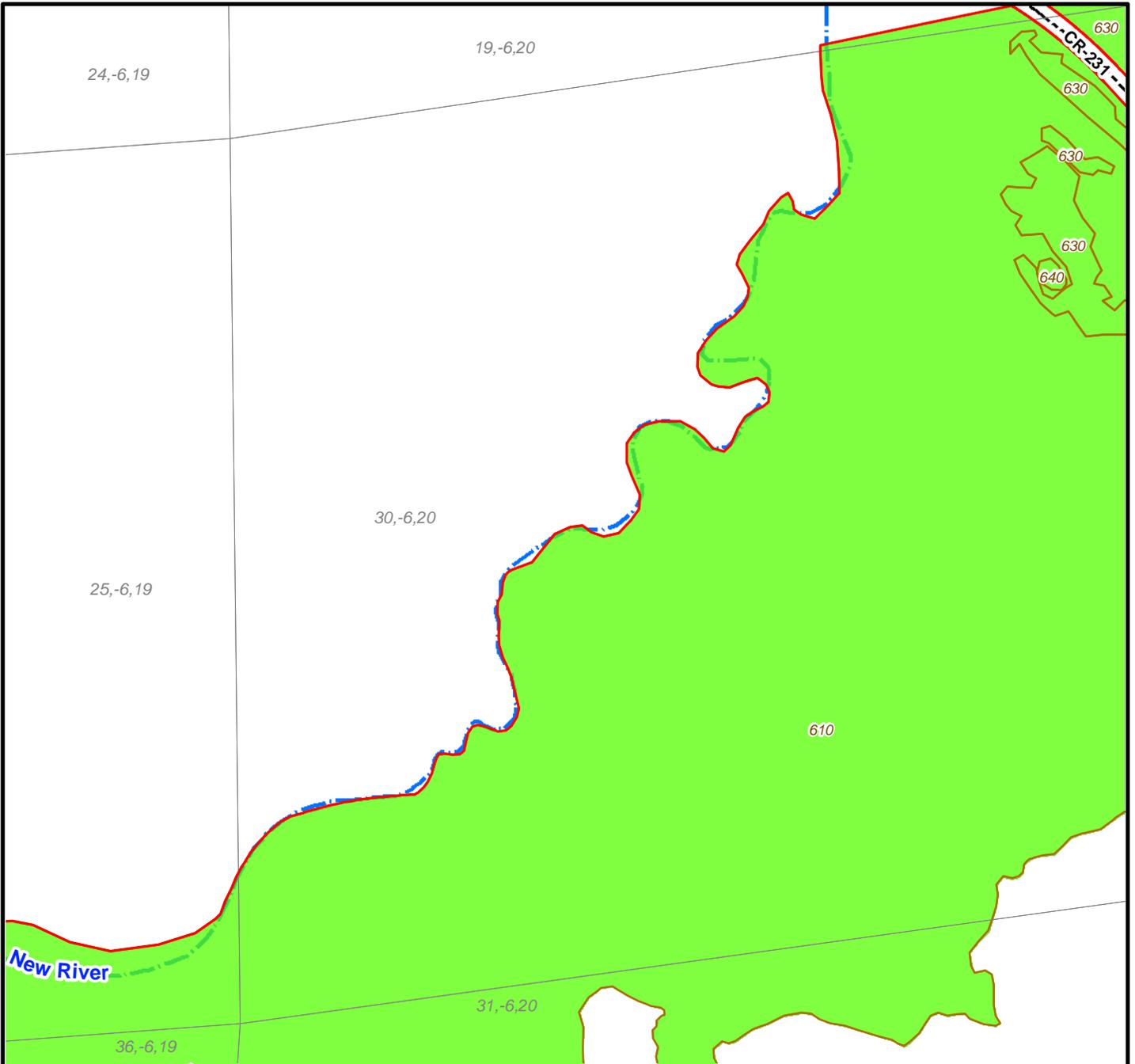


The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

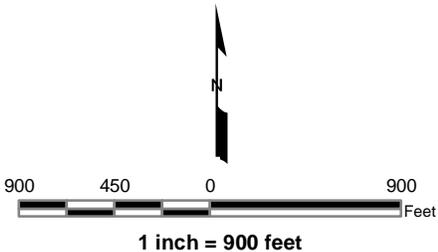
Legend	
	Project Boundary (5,352.62 Ac.±)
	Section/Township/Range
	Wetland (2,161.78 Ac.±)
	Other Surface Water (25.77 Ac.±)
	Land Use

<p>KLEINFELDER Bright People. Right Solutions. www.kleinfelder.com</p>	PROJECT NO. 20163103.001A	Wetland/OSW Location Map View 5	FIGURE 9F
	DRAWN: 4/20/2016		
	DRAWN BY: NL	HPS II Enterprises Mining Master Plan Bradford County, Florida	
	CHECKED BY: EJM		
FILE NAME: 16-0420--HPS Bradford SUP-WetOSW.mxd			

Document Path: \\mountdora\mountdora-data\GIS\CADD\HPS Enterprises\HPS II Bradford Co Phosphate Mine\03-0000\County SUP\16-0420--HPS Bradford SUP-WetOSW.mxd



NOTE: Wetland/Other Surface Water limits pending FDEP and Corps verification.



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend	
	Project Boundary (5,352.62 Ac.±)
	Section/Township/Range
	Wetland (2,161.78 Ac.±)
	Land Use



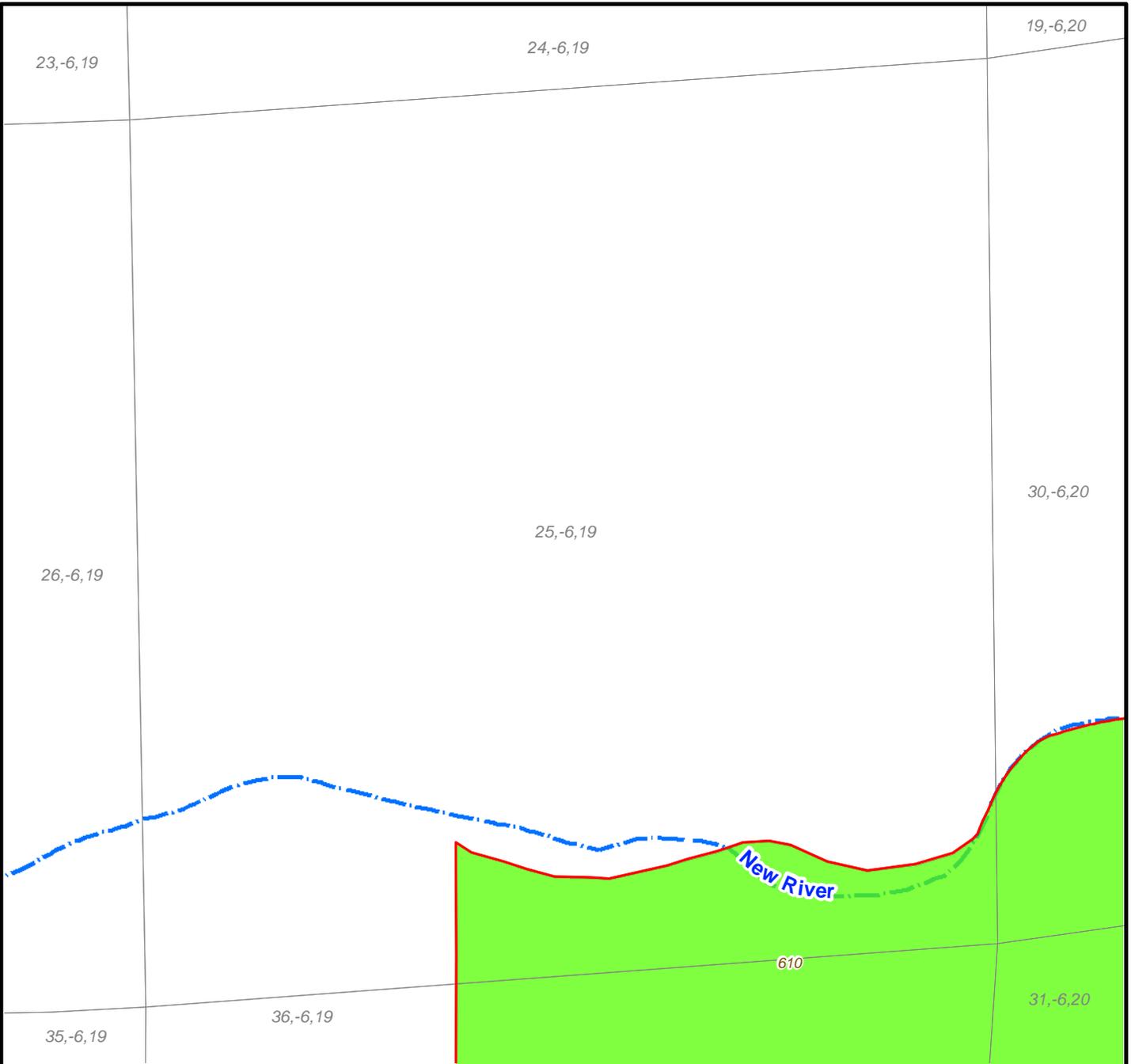
PROJECT NO.	20163103.001A
DRAWN:	4/20/2016
DRAWN BY:	NL
CHECKED BY:	EJM
FILE NAME:	16-0420--HPS Bradford SUP-WetOSW.mxd

Wetland/OSW Location Map
View 6

**HPS II Enterprises
Mining Master Plan
Bradford County, Florida**

FIGURE
9G

Document Path: \\mountdora\mountdora-data\GIS\CADD\HPS Enterprises\16-0420--HPS Enterprises\HPS II Bradford Co Phosphate Mine\03-0000 County SUP\16-0420--HPS Bradford SUP-WetOSW.mxd



NOTE: Wetland/Other Surface Water limits pending FDEP and Corps verification.

900 450 0 900
Feet

1 inch = 900 feet

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend

- Project Boundary (5,352.62 Ac.±)
- Section/Township/Range
- Wetland (2,161.78 Ac.±)
- Land Use



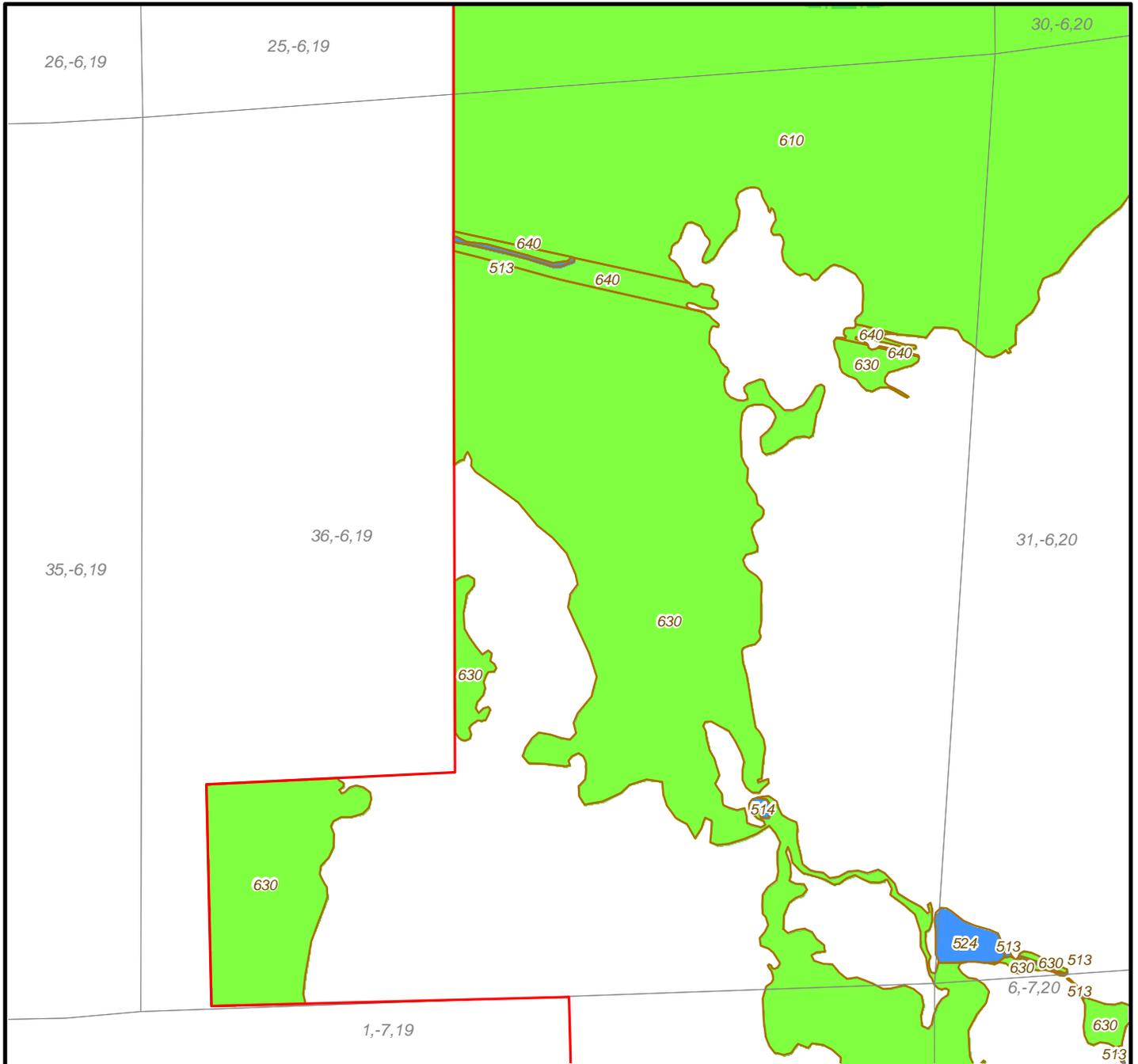
PROJECT NO. 20163103.001A
 DRAWN: 4/20/2016
 DRAWN BY: NL
 CHECKED BY: EJM
 FILE NAME: 16-0420--HPS
 Bradford SUP-WetOSW.mxd

Wetland/OSW Location Map
View 7

**HPS II Enterprises
Mining Master Plan
Bradford County, Florida**

FIGURE

9H



NOTE: Wetland/Other Surface Water limits pending FDEP and Corps verification.



1 inch = 900 feet

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend	
	Project Boundary (5,352.62 Ac.±)
	Section/Township/Range
	Wetland (2,161.78 Ac.±)
	Other Surface Water (25.77 Ac.±)
	Land Use



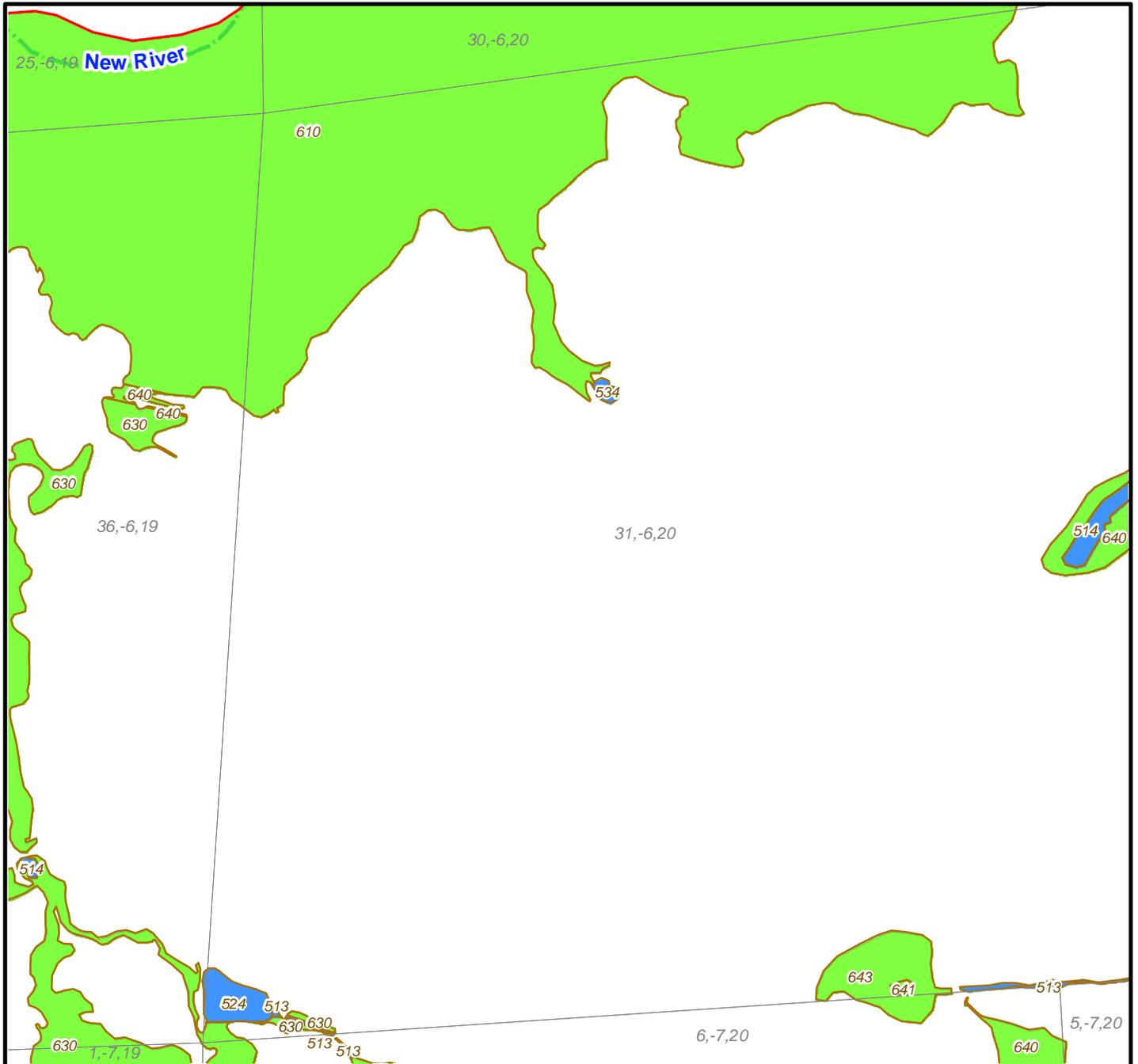
PROJECT NO.	20163103.001A
DRAWN:	4/20/2016
DRAWN BY:	NL
CHECKED BY:	EJM
FILE NAME:	16-0420--HPS Bradford SUP-WetOSW.mxd

Wetland/OSW Location Map
View 8

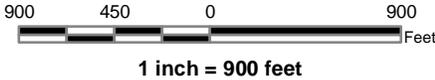
**HPS II Enterprises
Mining Master Plan
Bradford County, Florida**

FIGURE
91

Document Path: \\mountain\MOUNTDORA-DATA\GIS\CADD\HPS Enterprises\HPS II Bradford Co Phosphate Mine\03-0000\County SUP\16-0420--HPS Bradford SUP-WetOSW.mxd



NOTE: Wetland/Other Surface Water limits pending FDEP and Corps verification.



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend	
	Project Boundary (5,352.62 Ac.±)
	Section/Township/Range
	Wetland (2,161.78 Ac.±)
	Other Surface Water (25.77 Ac.±)
	Land Use



PROJECT NO. 20163103.001A
 DRAWN: 4/20/2016
 DRAWN BY: NL
 CHECKED BY: EJM
 FILE NAME: 16-0420--HPS
 Bradford SUP-WetOSW.mxd

Wetland/OSW Location Map
 View 9

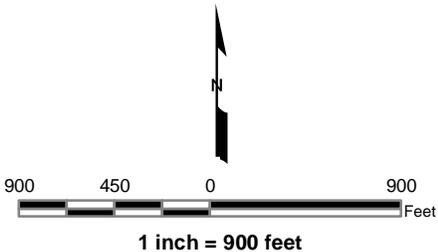
HPS II Enterprises
 Mining Master Plan
 Bradford County, Florida

FIGURE
 9J

Document Path: \\mountdora\mountdora-data\GIS\CADD\HPS Enterprises\HPS II Bradford Co Phosphate Mine\03-0000\County SUP\16-0420--HPS Bradford SUP-WetOSW.mxd



NOTE: Wetland/Other Surface Water limits pending FDEP and Corps verification.



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend	
	Project Boundary (5,352.62 Ac.±)
	Section/Township/Range
	Wetland (2,161.78 Ac.±)
	Other Surface Water (25.77 Ac.±)
	Land Use



PROJECT NO.	20163103.001A
DRAWN:	4/20/2016
DRAWN BY:	NL
CHECKED BY:	EJM
FILE NAME:	16-0420--HPS Bradford SUP-WetOSW.mxd

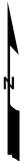
Wetland/OSW Location Map View 12
HPS II Enterprises Mining Master Plan Bradford County, Florida

FIGURE	9M
--------	----

Document Path: \\mountain\MOUNTDORA-DATA\GIS\CADD\HPS Enterprises\HPS II Bradford Co Phosphate Mine\03-0000 County SUP\16-0420--HPS Bradford SUP-WetOSW.mxd



NOTE: Wetland/Other Surface Water limits pending FDEP and Corps verification.



900 450 0 900
Feet

1 inch = 900 feet

Legend

- Project Boundary (5,352.62 Ac.±)
- Section/Township/Range
- Wetland (2,161.78 Ac.±)
- Other Surface Water (25.77 Ac.±)
- Land Use

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.



PROJECT NO. 20163103.001A
 DRAWN: 4/20/2016
 DRAWN BY: NL
 CHECKED BY: EJM
 FILE NAME: 16-0420--HPS
 Bradford SUP-WetOSW.mxd

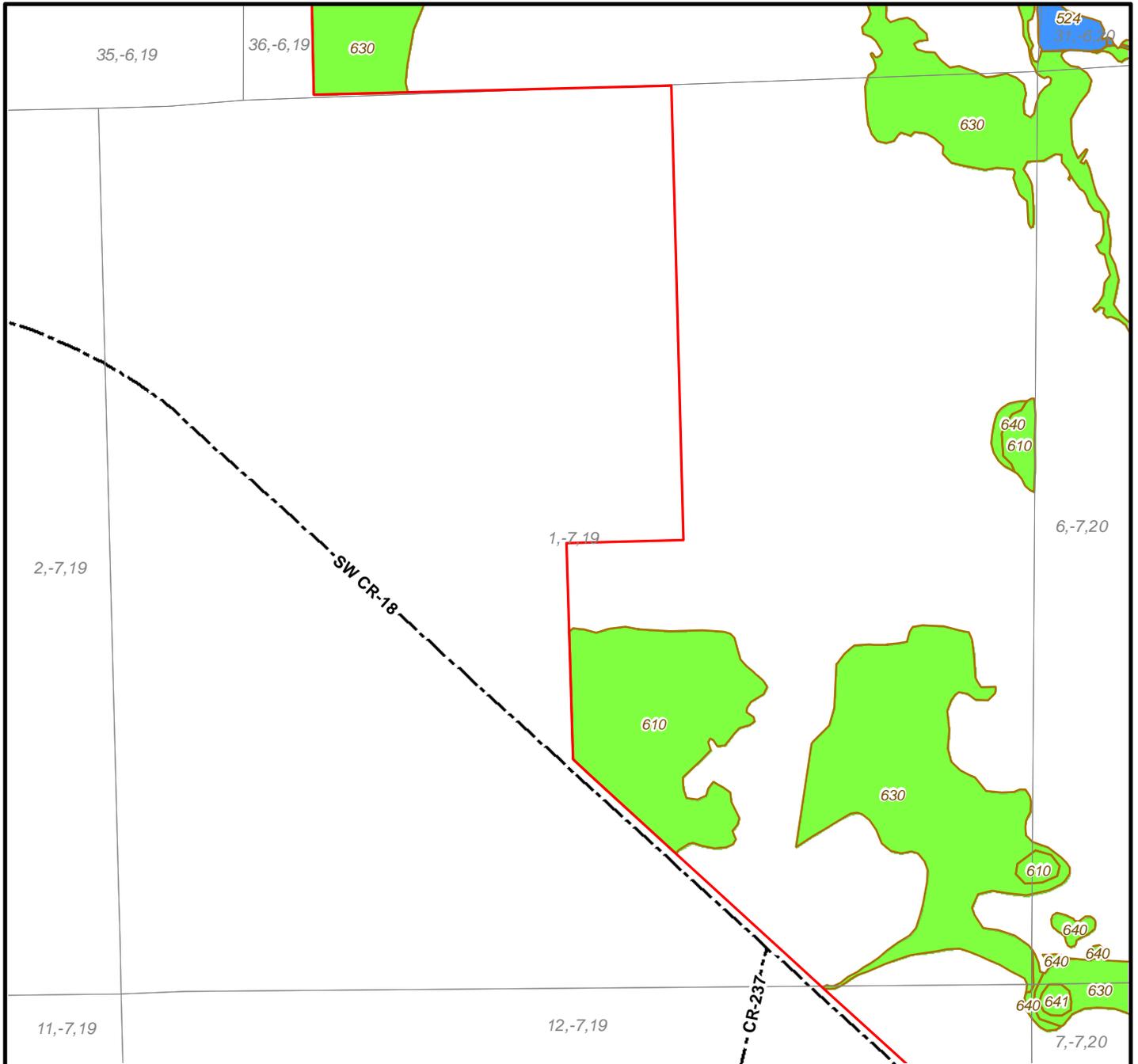
Wetland/OSW Location Map
View 13

**HPS II Enterprises
Mining Master Plan
Bradford County, Florida**

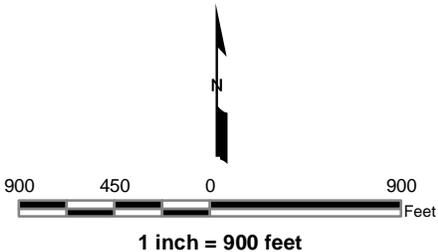
FIGURE

9N

Document Path: \\mountdora\mountdora-data\GIS\CADD\HPS Enterprises\Incl20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000 County SUP\16-0420--HPS Bradford SUP-WetOSW.mxd



NOTE: Wetland/Other Surface Water limits pending FDEP and Corps verification.



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend	
	Project Boundary (5,352.62 Ac.±)
	Section/Township/Range
	Wetland (2,161.78 Ac.±)
	Other Surface Water (25.77 Ac.±)
	Land Use



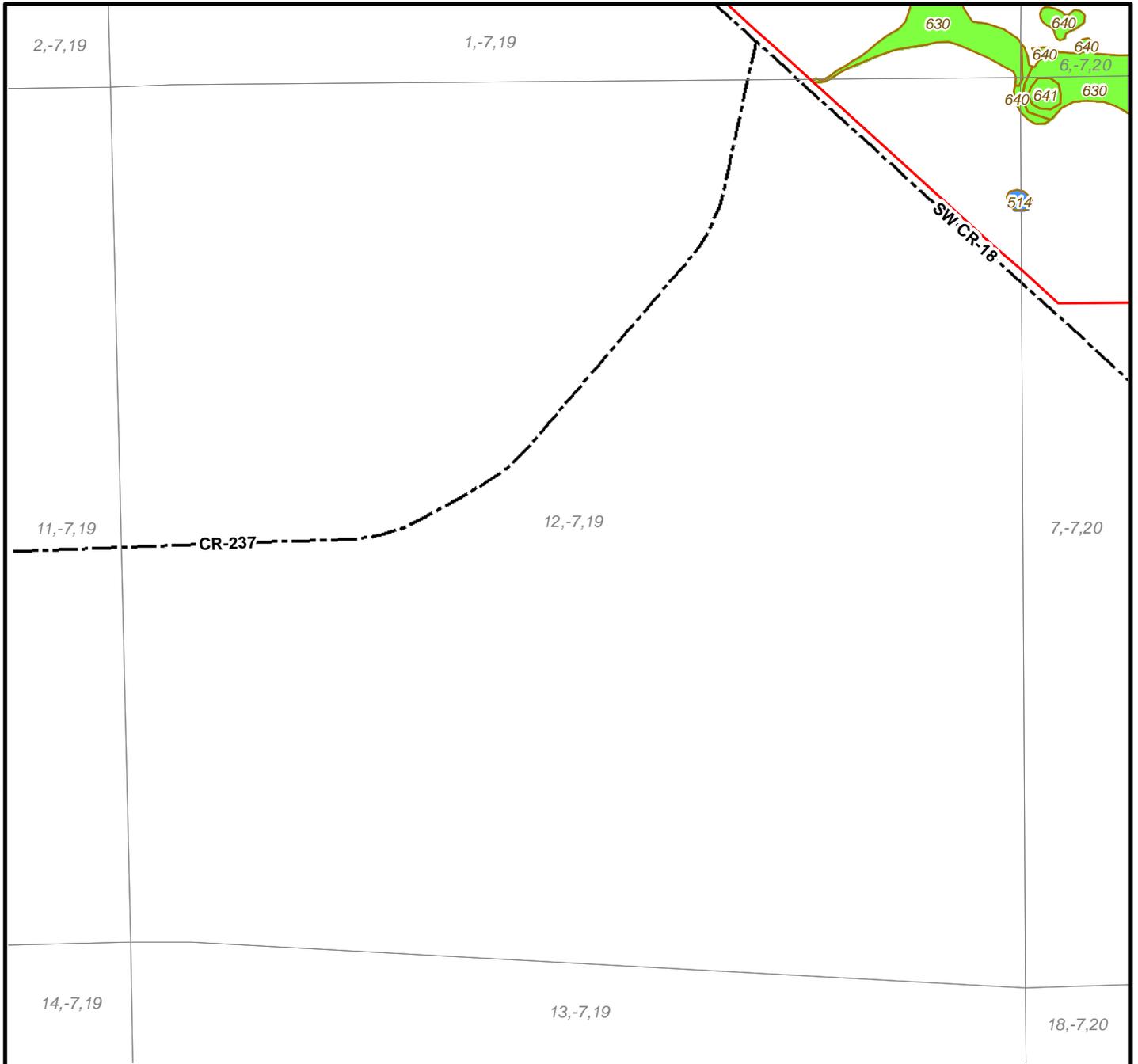
PROJECT NO.	20163103.001A
DRAWN:	4/20/2016
DRAWN BY:	NL
CHECKED BY:	EJM
FILE NAME:	16-0420--HPS Bradford SUP-WetOSW.mxd

Wetland/OSW Location Map
View 15

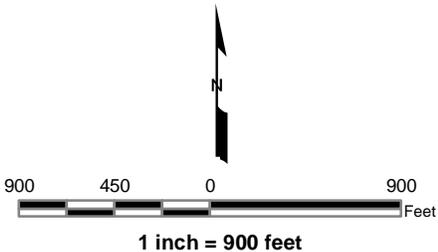
**HPS II Enterprises
Mining Master Plan
Bradford County, Florida**

FIGURE
9P

Document Path: \\mountdora\mountdora-data\GIS\CADD\HPS Enterprises\Incl20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000 County SUP\16-0420--HPS Bradford SUP-WetOSW.mxd



NOTE: Wetland/Other Surface Water limits pending FDEP and Corps verification.



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend	
	Project Boundary (5,352.62 Ac.±)
	Section/Township/Range
	Wetland (2,161.78 Ac.±)
	Other Surface Water (25.77 Ac.±)
	Land Use

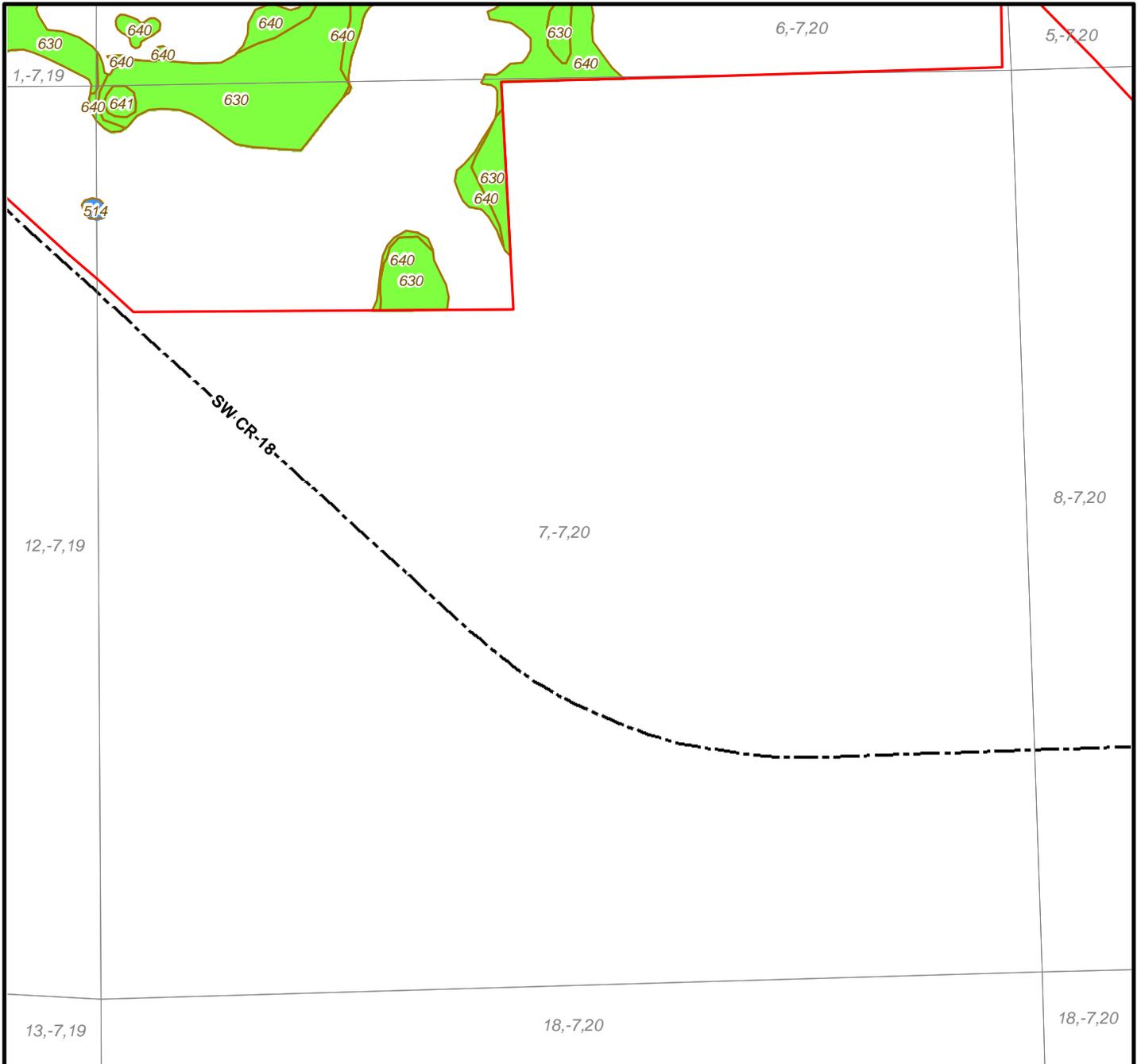
PROJECT NO.	20163103.001A
DRAWN:	4/20/2016
DRAWN BY:	NL
CHECKED BY:	EJM
FILE NAME:	16-0420--HPS Bradford SUP-WetOSW.mxd

Wetland/OSW Location Map
View 16

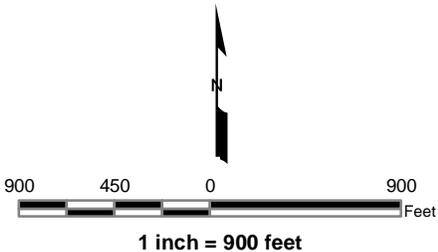
**HPS II Enterprises
Mining Master Plan
Bradford County, Florida**

FIGURE
9Q

Document Path: \\mountdora\mountdora-data\GIS\CADD\HPS Enterprises Inc\20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000 County SUP\16-0420--HPS Bradford SUP-WetOSW.mxd



NOTE: Wetland/Other Surface Water limits pending FDEP and Corps verification.



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

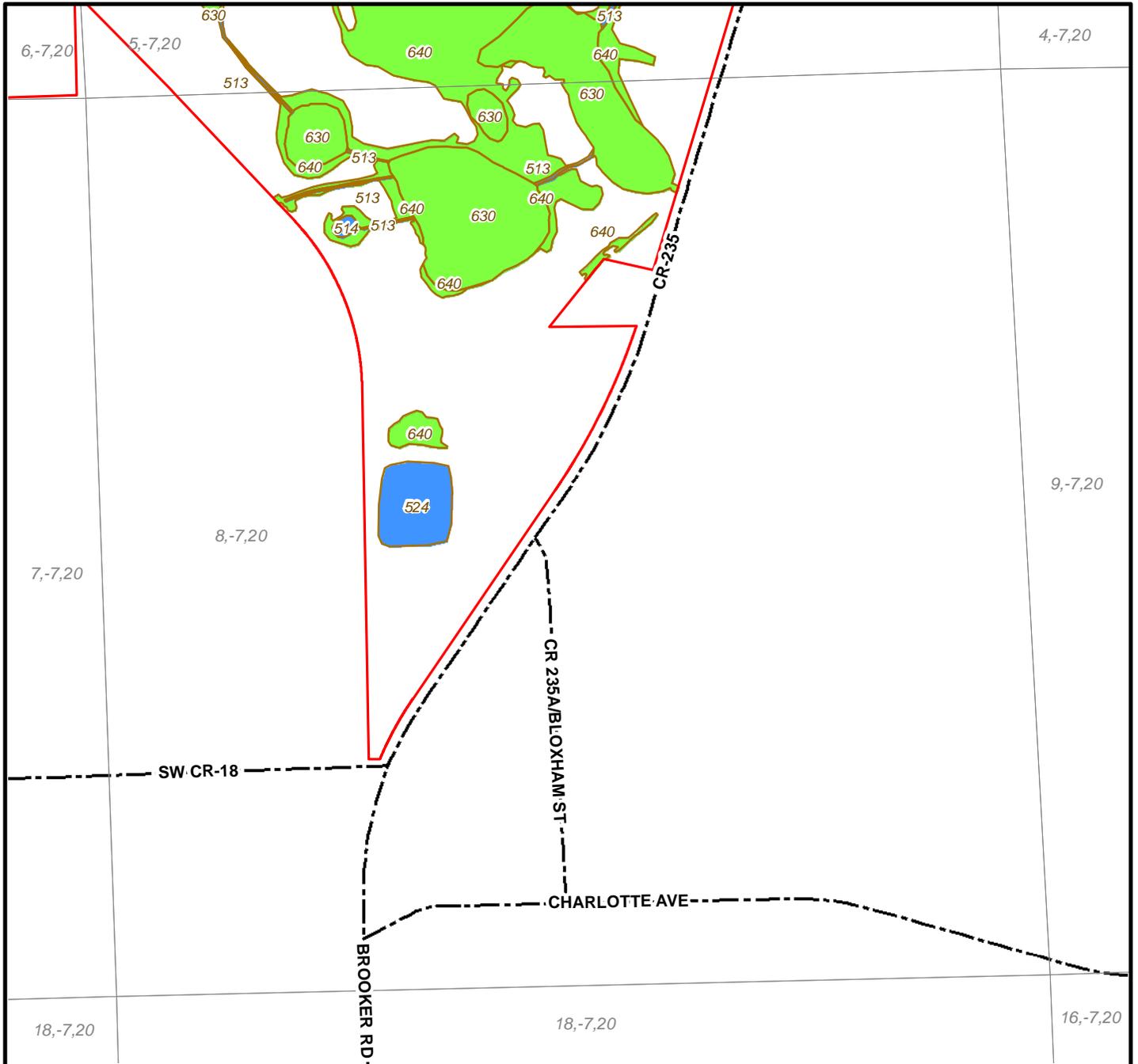
Legend	
	Project Boundary (5,352.62 Ac.±)
	Section/Township/Range
	Wetland (2,161.78 Ac.±)
	Other Surface Water (25.77 Ac.±)
	Land Use

PROJECT NO.	20163103.001A
DRAWN:	4/20/2016
DRAWN BY:	NL
CHECKED BY:	EJM
FILE NAME:	16-0420--HPS Bradford SUP-WetOSW.mxd

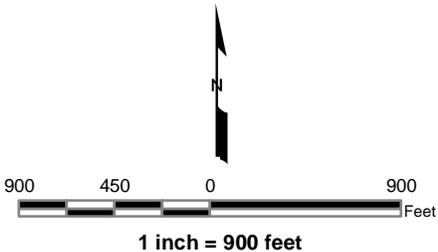
Wetland/OSW Location Map View 17	
HPS II Enterprises Mining Master Plan Bradford County, Florida	

FIGURE	9R
--------	----

Document Path: \\mountdora\mountdora-data\GIS\CADD\HPS Enterprises Inc\20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000 County SUP\16-0420--HPS Bradford SUP-WetOSW.mxd



NOTE: Wetland/Other Surface Water limits pending FDEP and Corps verification.



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend	
	Project Boundary (5,352.62 Ac.±)
	Section/Township/Range
	Wetland (2,161.78 Ac.±)
	Other Surface Water (25.77 Ac.±)
	Land Use



PROJECT NO.	20163103.001A
DRAWN:	4/20/2016
DRAWN BY:	NL
CHECKED BY:	EJM
FILE NAME:	16-0420--HPS Bradford SUP-WetOSW.mxd

Wetland/OSW Location Map
View 18

**HPS II Enterprises
Mining Master Plan
Bradford County, Florida**

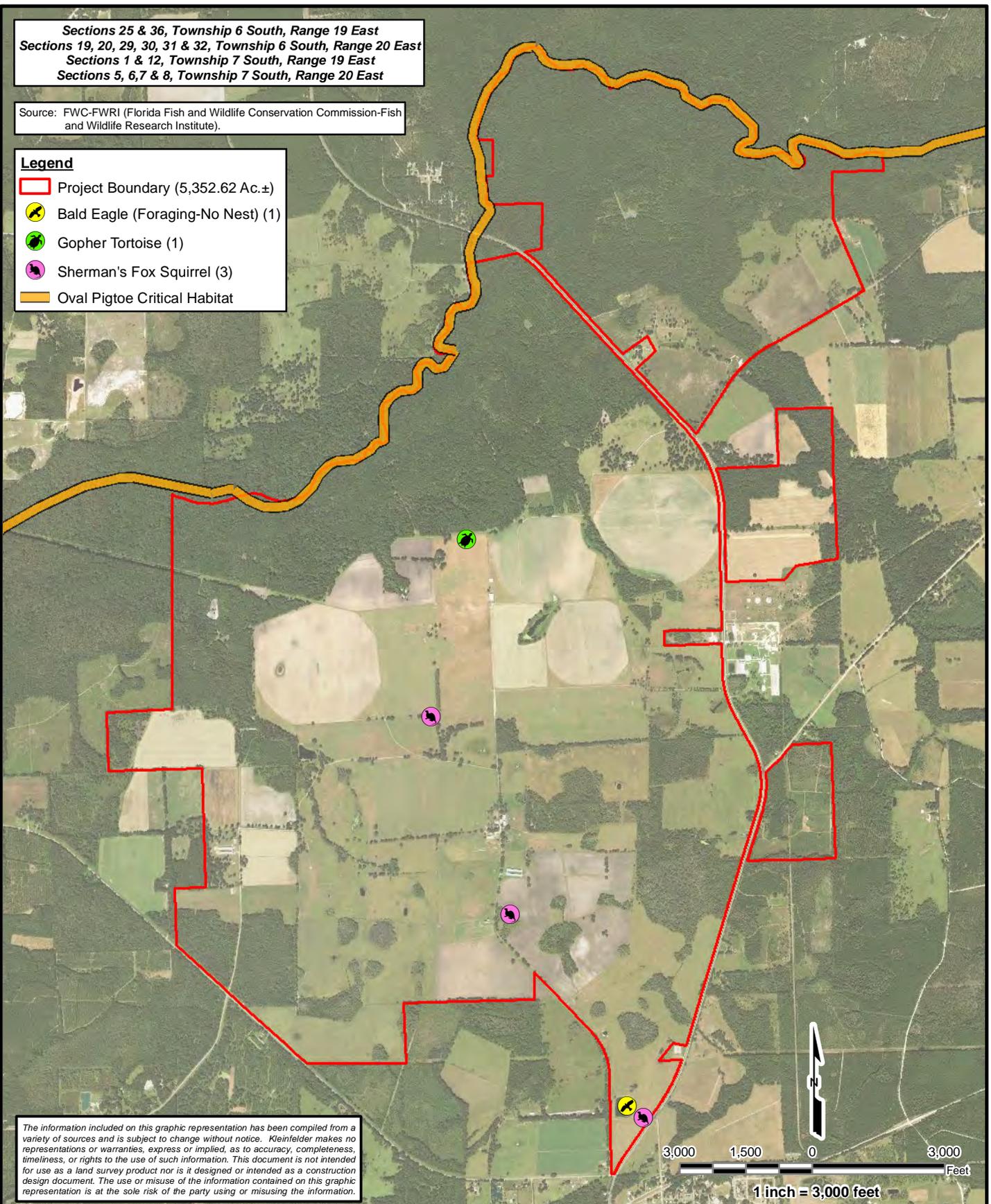
FIGURE
9S

Sections 25 & 36, Township 6 South, Range 19 East
 Sections 19, 20, 29, 30, 31 & 32, Township 6 South, Range 20 East
 Sections 1 & 12, Township 7 South, Range 19 East
 Sections 5, 6, 7 & 8, Township 7 South, Range 20 East

Source: FWC-FWRI (Florida Fish and Wildlife Conservation Commission-Fish and Wildlife Research Institute).

Legend

- Project Boundary (5,352.62 Ac.±)
- ✎ Bald Eagle (Foraging-No Nest) (1)
- 🐢 Gopher Tortoise (1)
- 🐿 Sherman's Fox Squirrel (3)
- Oval Pigtoe Critical Habitat



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Document Path: V:\moundor\MOUNTDORA-DATA\GIS\CADD\HPS Enterprises\HPS II Bradford Co Phosphate Mine\03-0000 County SUP\16-0420--HPS Bradford SUP-ListedSPP.mxd



PROJECT NO. 20163103.001A
 DRAWN: 4/20/2016
 DRAWN BY: NL
 CHECKED BY: EJM
 FILE NAME: 16-0420--HPS
 Bradford SUP-ListedSPP.mxd

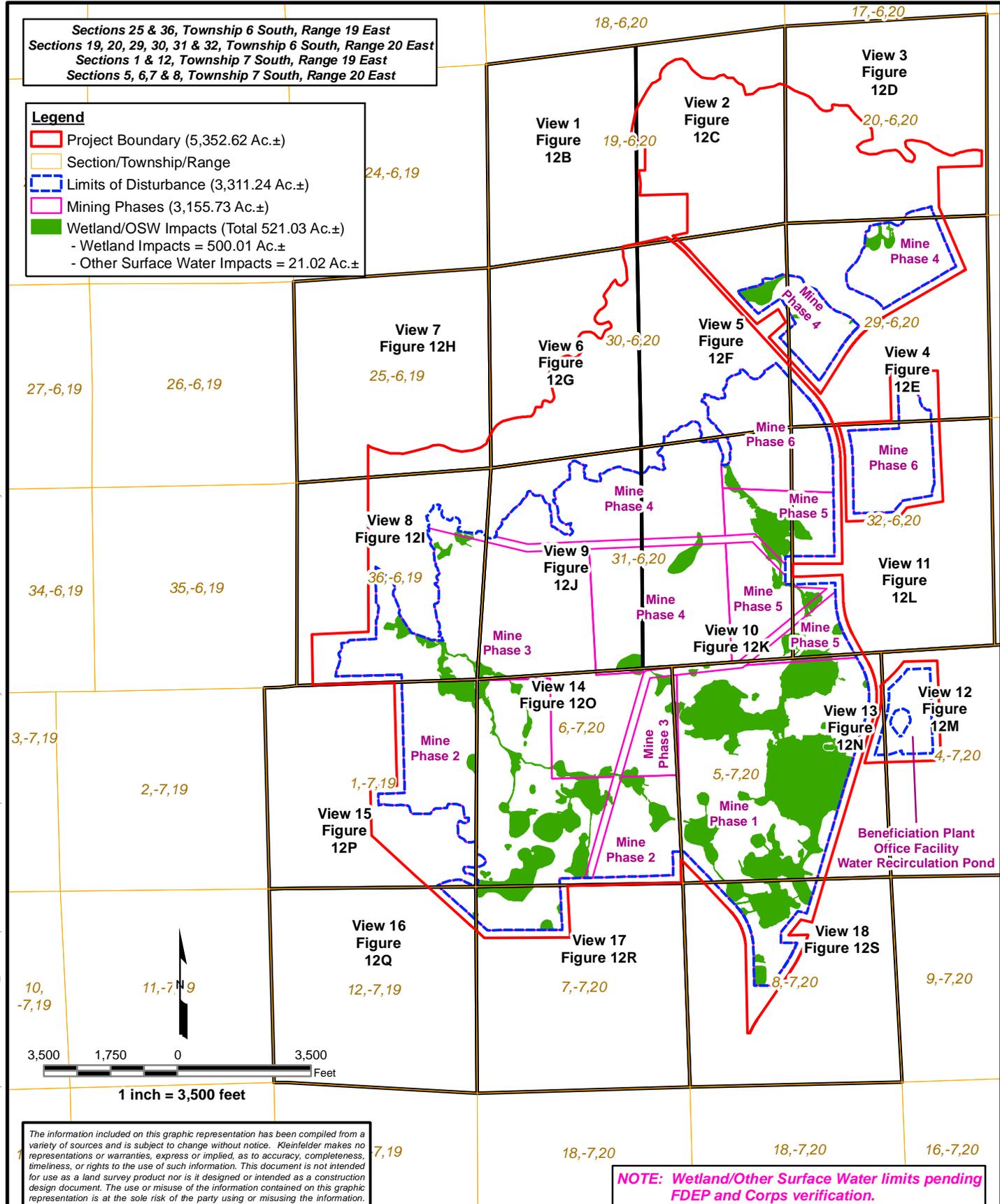
Documented Listed Species Occurrences

**HPS II Enterprises
 Mining Master Plan
 Bradford County, Florida**

FIGURE
 10

Sections 25 & 36, Township 6 South, Range 19 East
 Sections 19, 20, 29, 30, 31 & 32, Township 6 South, Range 20 East
 Sections 1 & 12, Township 7 South, Range 19 East
 Sections 5, 6, 7 & 8, Township 7 South, Range 20 East

- Legend**
- Project Boundary (5,352.62 Ac.±)
 - Section/Township/Range
 - Limits of Disturbance (3,311.24 Ac.±)
 - Mining Phases (3,155.73 Ac.±)
 - Wetland/OSW Impacts (Total 521.03 Ac.±)
 - Wetland Impacts = 500.01 Ac.±
 - Other Surface Water Impacts = 21.02 Ac.±



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

NOTE: Wetland/Other Surface Water limits pending FDEP and Corps verification.



PROJECT NO.	20163103.001A
DRAWN:	4/20/2016
DRAWN BY:	NL
CHECKED BY:	EJM
FILE NAME:	16-0420--HPS Bradford SUP-MinePlanKey.mxd

Conceptual Mine Plan - Key

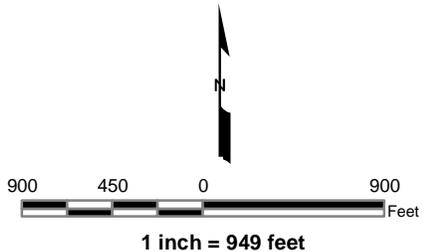
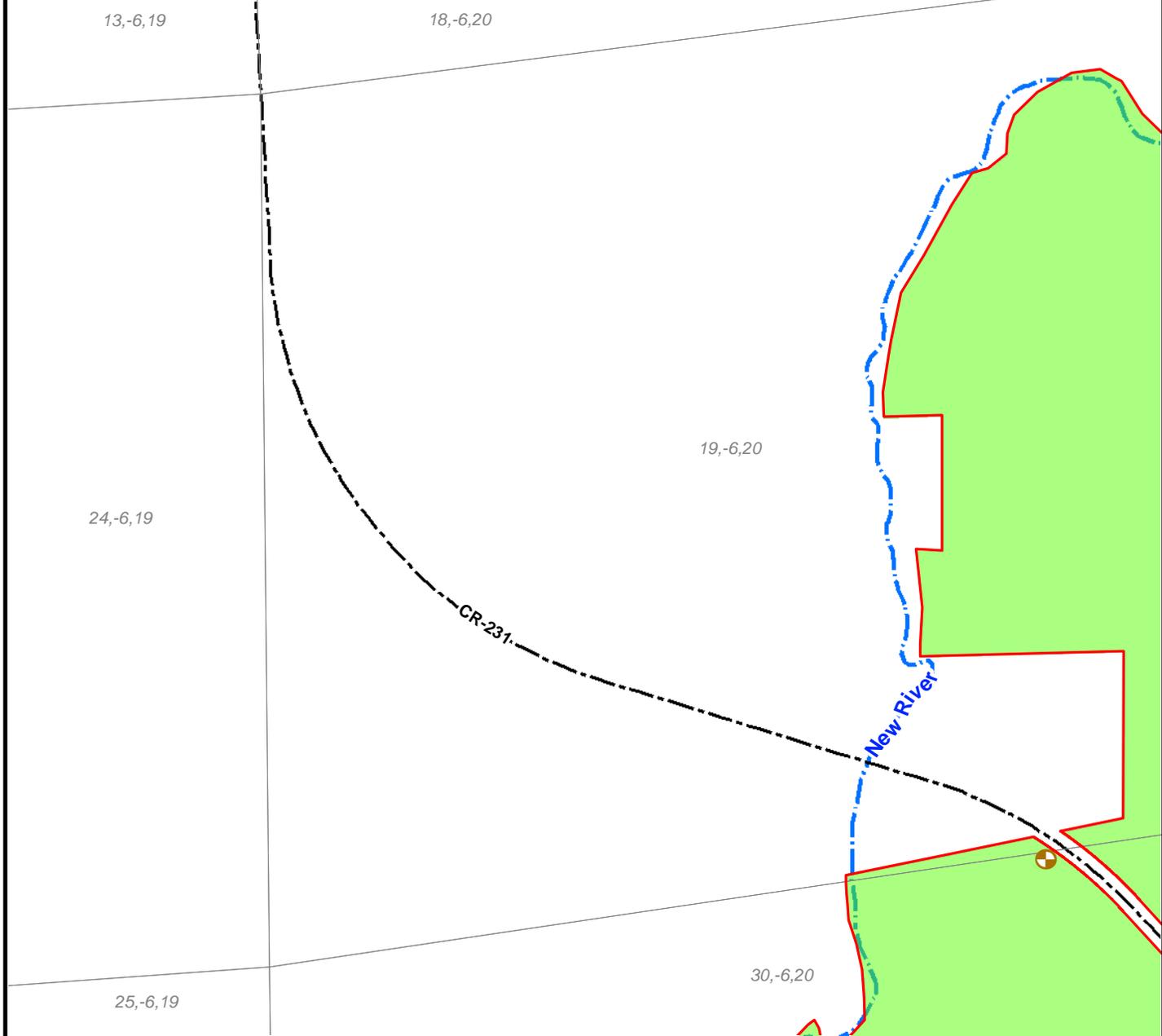
**HPS II Enterprises
 Mining Master Plan
 Bradford County, Florida**

FIGURE

12A

Document Path: \\mountain\MOUNTDORA-DATA\GIS\CADD\HPS Enterprises Inc\20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000-County SUP\16-0420--HPS Bradford SUP-MinePlanKey.mxd

NOTE: Wetland/Other Surface Water limits pending FDEP and Corps verification.



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend

- Project Boundary (5,352.62 Ac.±)
- Section/Township/Range
- Wetland (2,151.78 Ac.±)

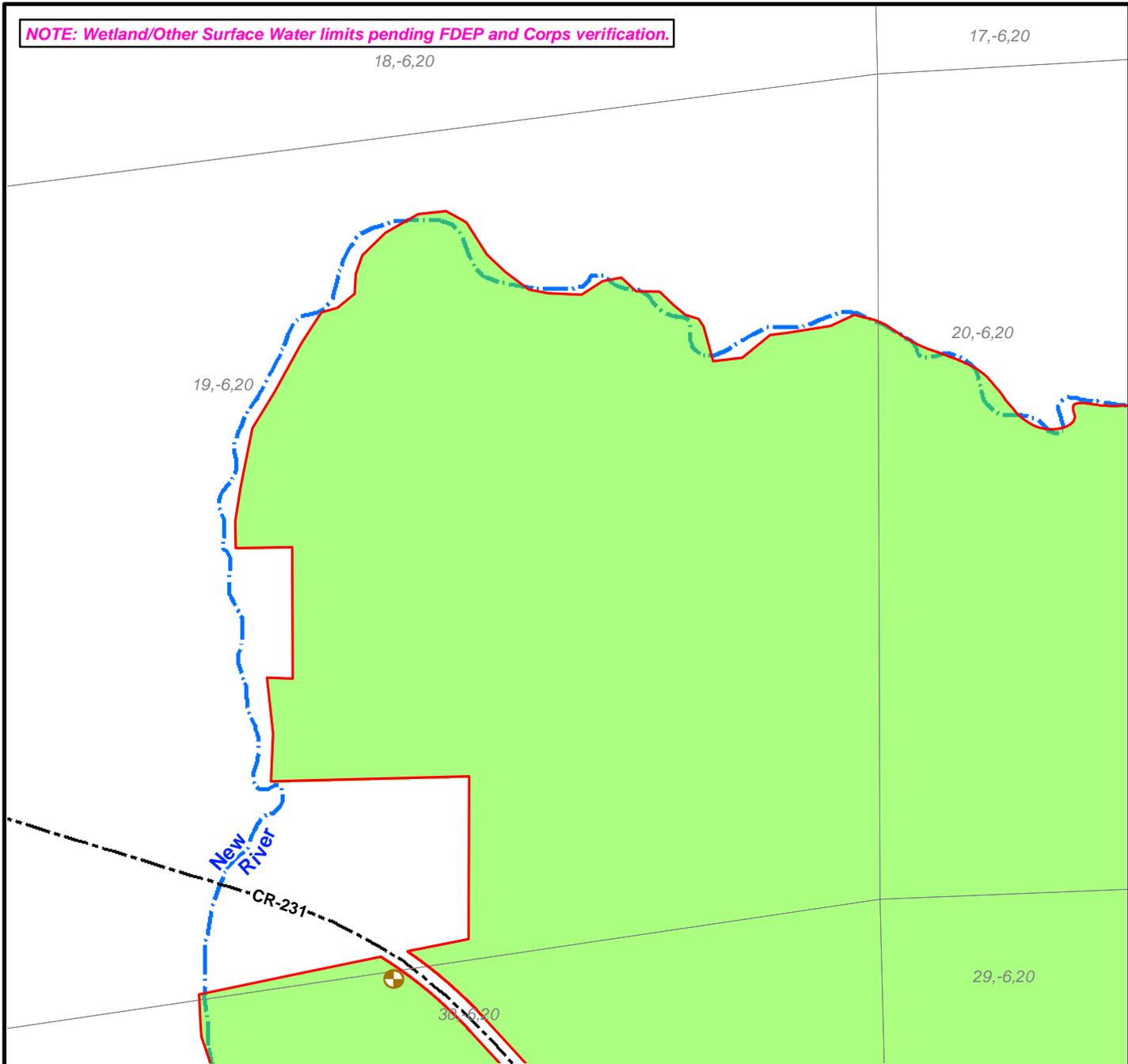
Monitoring Locations

- Surface Waterflow and Quality

Document Path: V:\mountdora\MOUNTDORA-DATA\GIS\CAD\HPS Enterprises Inc\20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000-County SUP\16-0420--HPS Bradford SUP-MinePlan.mxd

 KLEINFELDER <i>Bright People. Right Solutions.</i> www.kleinfelder.com	PROJECT NO. 20163103.001A	Conceptual Mine Plan - View 1	FIGURE 12B
	DRAWN: 4/20/2016		
	DRAWN BY: NL	HPS II Enterprises Mining Master Plan Bradford County, Florida	
	CHECKED BY: EJM		
FILE NAME: 16-0420--HPS Bradford SUP-MinePlan.mxd			

NOTE: Wetland/Other Surface Water limits pending FDEP and Corps verification.



1 inch = 949 feet

Legend

- Project Boundary (5,352.62 Ac.±)
- Section/Township/Range
- Wetland (2,151.78 Ac.±)

Monitoring Locations

- + Surface Waterflow and Quality

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

PROJECT NO.	20163103.001A
DRAWN:	4/20/2016
DRAWN BY:	NL
CHECKED BY:	EJM
FILE NAME:	16-0420--HPS Bradford SUP-MinePlan.mxd

Conceptual Mine Plan - View 2

**HPS II Enterprises
Mining Master Plan
Bradford County, Florida**

FIGURE
12C

Document Path: \\mountdora\MOUNTDORA-DATA\GIS\CAD\HPS Enterprises\Incl20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000\County SUP\16-0420--HPS Bradford SUP-MinePlan.mxd

NOTE: Wetland/Other Surface Water limits pending FDEP and Corps verification.

16,-6,20

18,-6,20

19,-6,20

20,-6,20

21,-6,20

New River

25' Wetland Setback

200' Setback

Mine Phase 4
- 102.95 Ac.±
(Years 10-12)

29,-6,20

28,-6,20

30,-6,20



1 inch = 949 feet

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend

- Project Boundary (5,352.62 Ac.±)
- Section/Township/Range
- Limits of Disturbance (3,311.24 Ac.±)
- Mining Phases (3,155.73 Ac.±)
- Wetland (2,151.78 Ac.±)
- Other Surface Water (23.69 Ac.±)
- Stormwater Discharge Locations
- Monitoring Locations
- ⊕ Groundwater Monitoring



PROJECT NO. 20163103.001A
 DRAWN: 4/20/2016
 DRAWN BY: NL
 CHECKED BY: EJM
 FILE NAME: 16-0420--HPS
 Bradford SUP-MinePlan.mxd

Conceptual Mine Plan - View 3

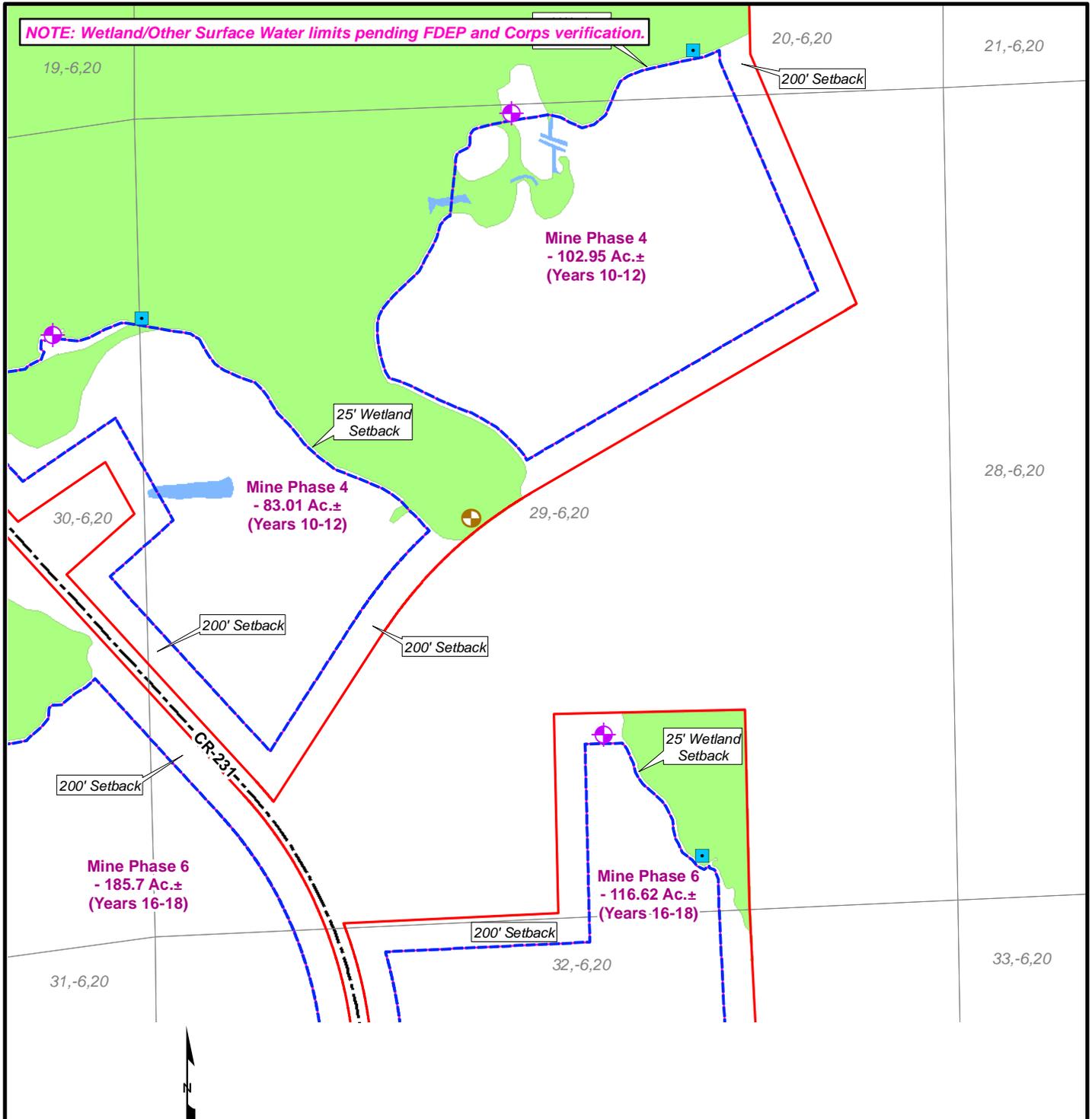
HPS II Enterprises
 Mining Master Plan
 Bradford County, Florida

FIGURE

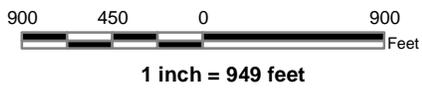
12D

Document Path: \\mountdora\MOUNTDORA-DATA\GIS\CAD\HPS Enterprises Inc\20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000 County SUP\16-0420--HPS Bradford SUP-MinePlan.mxd

NOTE: Wetland/Other Surface Water limits pending FDEP and Corps verification.



Document Path: \\mountdora\MOUNTDORA-DATA\GIS\CAD\HPS Enterprises Inc\20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000 County SUP\16-0420--HPS Bradford SUP-MinePlan.mxd



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend	
▭ Project Boundary (5,352.62 Ac.±)	■ Stormwater Discharge Locations
▭ Section/Township/Range	● Monitoring Locations
▭ Limits of Disturbance (3,311.24 Ac.±)	⊕ Groundwater Monitoring
▭ Mining Phases (3,155.73 Ac.±)	⊕ Surface Waterflow and Quality
▭ Wetland (2,151.78 Ac.±)	
▭ Other Surface Water (23.69 Ac.±)	

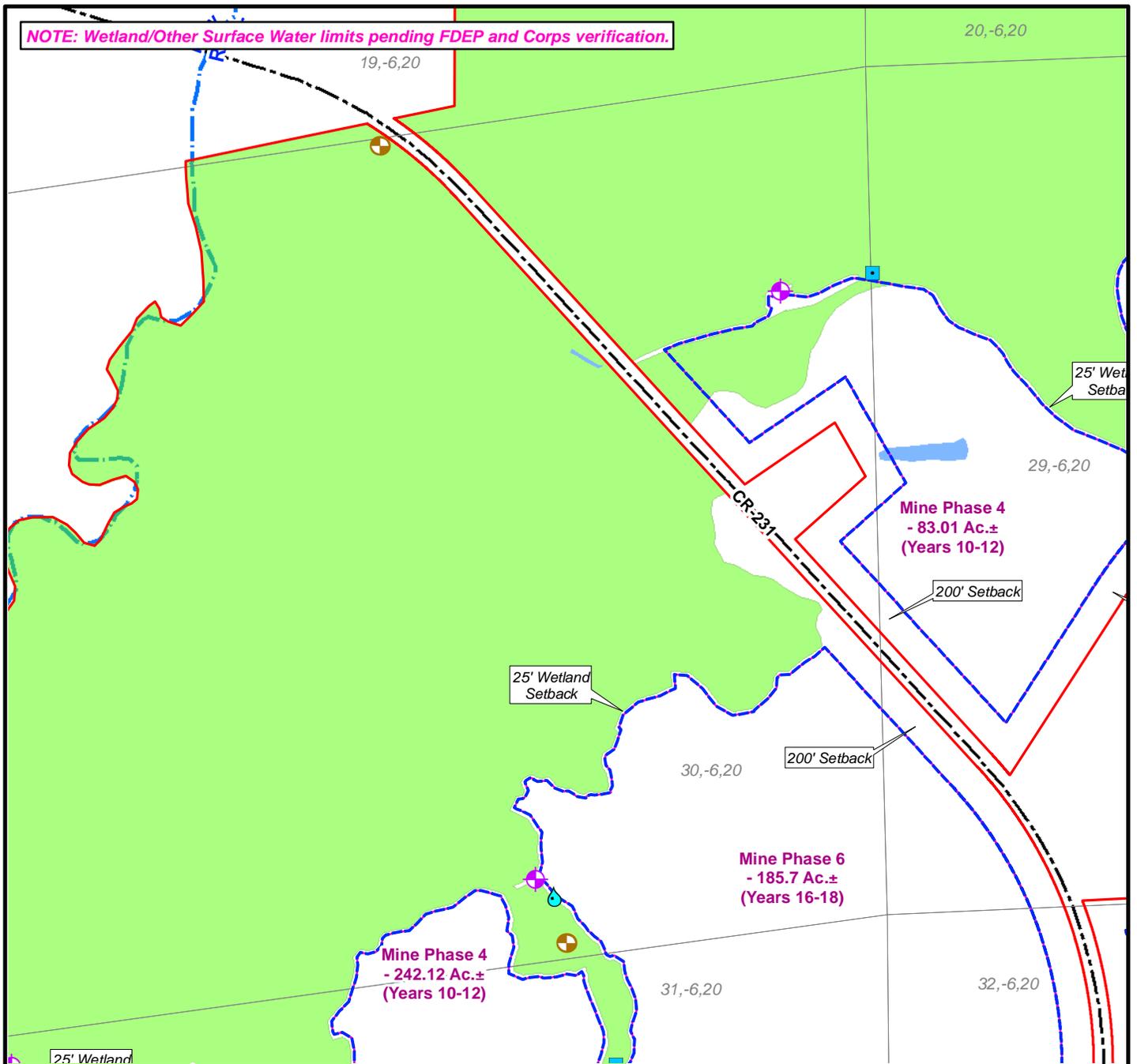


PROJECT NO.	20163103.001A
DRAWN:	4/20/2016
DRAWN BY:	NL
CHECKED BY:	EJM
FILE NAME:	16-0420--HPS Bradford SUP-MinePlan.mxd

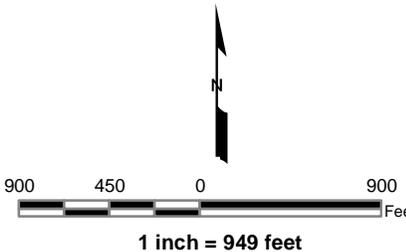
FIGURE	Conceptual Mine Plan - View 4
	HPS II Enterprises Mining Master Plan Bradford County, Florida

12E

NOTE: Wetland/Other Surface Water limits pending FDEP and Corps verification.



Document Path: V:\mountain\MOUNTDORA-DATA\GIS\CAD\HPS Enterprises Inc\20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000 County SUP\16-0420--HPS Bradford SUP-MinePlan.mxd



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend	
 Project Boundary (5,352.62 Ac.±)	 Stormwater Discharge Locations
 Section/Township/Range	■ Monitoring Locations
 Limits of Disturbance (3,311.24 Ac.±)	● Rainfall
 Mining Phases (3,155.73 Ac.±)	● Groundwater Monitoring
 Wetland (2,151.78 Ac.±)	⊕ Surface Waterflow and Quality
 Other Surface Water (23.69 Ac.±)	

KLEINFELDER
Bright People. Right Solutions.
www.kleinfelder.com

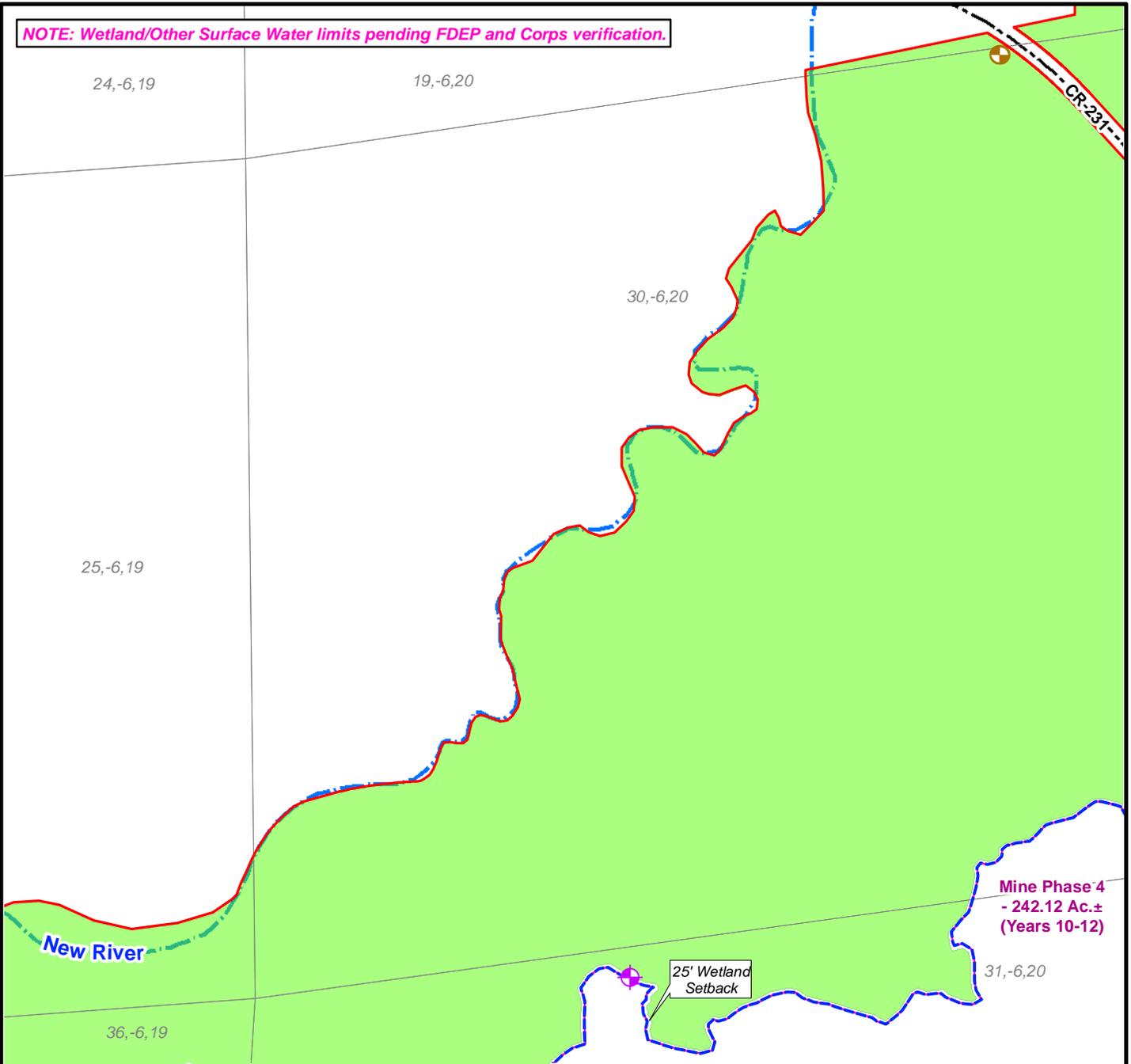
PROJECT NO.	20163103.001A
DRAWN:	4/20/2016
DRAWN BY:	NL
CHECKED BY:	EJM
FILE NAME:	16-0420--HPS Bradford SUP-MinePlan.mxd

Conceptual Mine Plan - View 5

**HPS II Enterprises
Mining Master Plan
Bradford County, Florida**

FIGURE
12F

NOTE: Wetland/Other Surface Water limits pending FDEP and Corps verification.



Legend

- Project Boundary (5,352.62 Ac.±)
- Section/Township/Range
- Limits of Disturbance (3,311.24 Ac.±)
- Mining Phases (3,155.73 Ac.±)
- Wetland (2,151.78 Ac.±)

Monitoring Locations

- ⊕ Groundwater Monitoring
- ⊕ Surface Waterflow and Quality

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.
www.kleinfelder.com

PROJECT NO.	20163103.001A
DRAWN:	4/20/2016
DRAWN BY:	NL
CHECKED BY:	EJM
FILE NAME:	16-0420--HPS Bradford SUP-MinePlan.mxd

Conceptual Mine Plan - View 6

**HPS II Enterprises
Mining Master Plan
Bradford County, Florida**

FIGURE
12G

Document Path: \\mountdora\MOUNTDORA-DATA\GIS\CADD\HPS Enterprises Inc\20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000 County SUP\16-0420--HPS Bradford SUP-MinePlan.mxd

NOTE: Wetland/Other Surface Water limits pending FDEP and Corps verification.

19,-6,20

23,-6,19

30,-6,20

25,-6,19

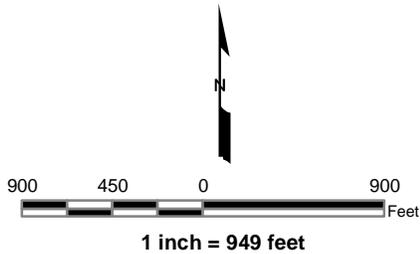
26,-6,19

31,-6,20

35,-6,19

36,-6,19

New River



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend

- Project Boundary (5,352.62 Ac.±)
- Section/Township/Range
- Gas Line Location
- Limits of Disturbance (3,311.24 Ac.±)
- Mining Phases (3,155.73 Ac.±)
- Wetland (2,151.78 Ac.±)

Monitoring Locations

- ⊕ Groundwater Monitoring



PROJECT NO. 20163103.001A
 DRAWN: 4/20/2016
 DRAWN BY: NL
 CHECKED BY: EJM
 FILE NAME: 16-0420--HPS
 Bradford SUP-MinePlan.mxd

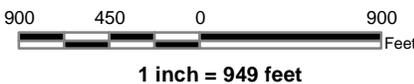
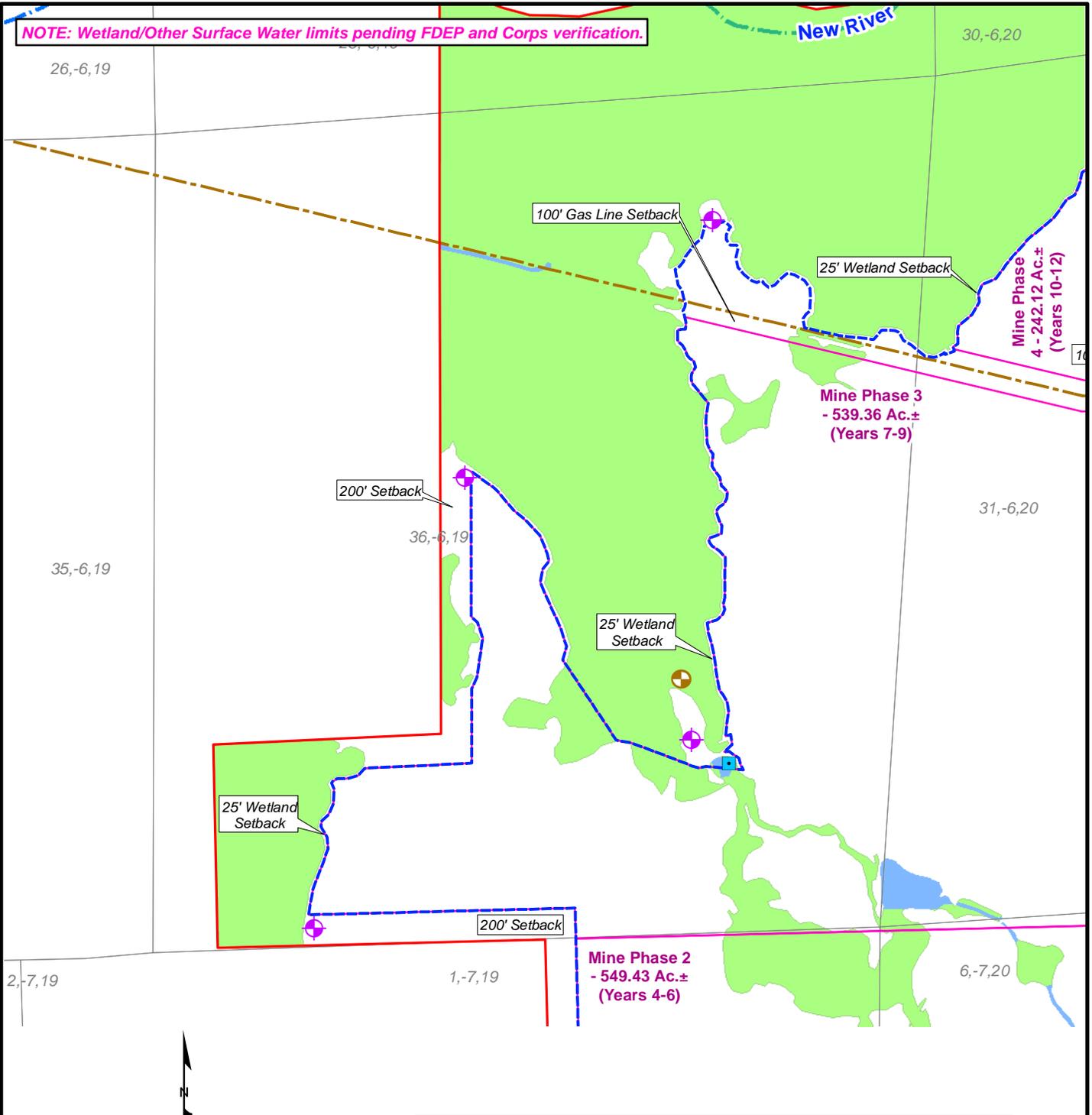
Conceptual Mine Plan - View 7

**HPS II Enterprises
 Mining Master Plan
 Bradford County, Florida**

FIGURE
12H

Document Path: V:\mountdora\MOUNTDORA-DATA\GIS\CADD\HPS Enterprises Inc\20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000-County SUP\16-0420--HPS Bradford SUP-MinePlan.mxd

Document Path: V:\mountain\MOUNTDORA-DATA\GIS\CAD\HPS Enterprises\Incl20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000-County SUP\16-0420--HPS Bradford SUP-MinePlan.mxd



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend	
	Project Boundary (5,352.62 Ac.±)
	Section/Township/Range
	Gas Line Location
	Limits of Disturbance (3,311.24 Ac.±)
	Mining Phases (3,155.73 Ac.±)
	Wetland (2,151.78 Ac.±)
	Other Surface Water (23.69 Ac.±)
	Stormwater Discharge Locations
	Monitoring Locations
	Groundwater Monitoring
	Surface Waterflow and Quality

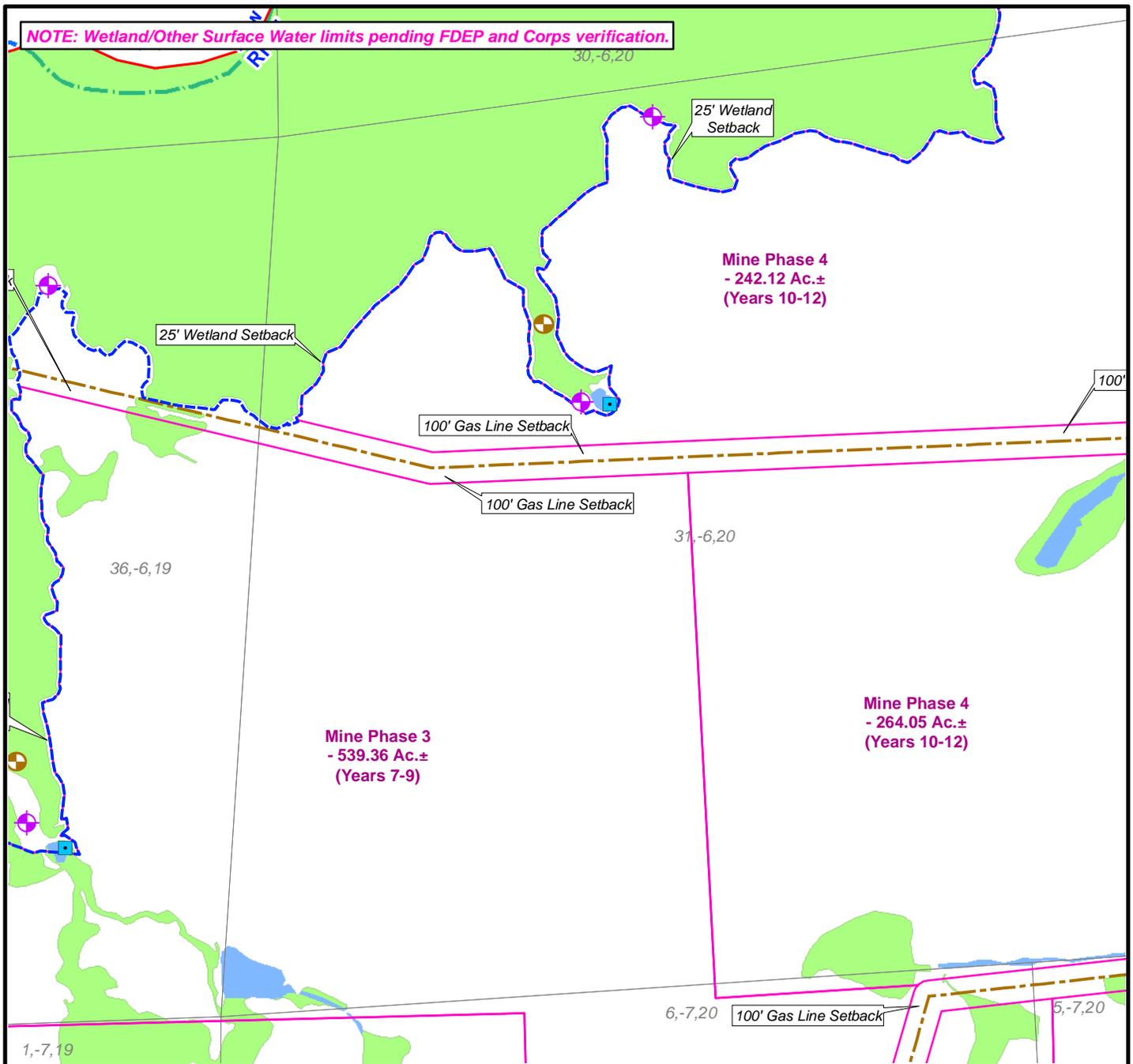


PROJECT NO.	20163103.001A
DRAWN:	4/20/2016
DRAWN BY:	NL
CHECKED BY:	EJM
FILE NAME:	16-0420--HPS Bradford SUP-MinePlan.mxd

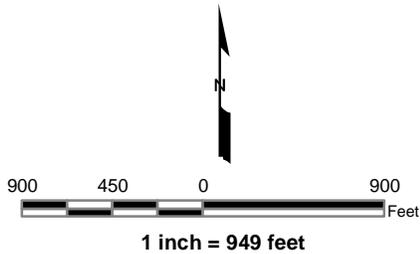
Conceptual Mine Plan - View 8
HPS II Enterprises Mining Master Plan Bradford County, Florida

FIGURE	121
--------	-----

NOTE: Wetland/Other Surface Water limits pending FDEP and Corps verification.



Document Path: \\mountdora\MOUNTDORA-DATA\GIS\CAD\HPS Enterprises\Incl20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000 County SUP\16-0420--HPS Bradford SUP-MinePlan.mxd



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend	
Project Boundary (5,352.62 Ac.±)	Stormwater Discharge Locations
Section/Township/Range	Monitoring Locations
Gas Line Location	Groundwater Monitoring
Limits of Disturbance (3,311.24 Ac.±)	Surface Waterflow and Quality
Mining Phases (3,155.73 Ac.±)	
Wetland (2,151.78 Ac.±)	
Other Surface Water (23.69 Ac.±)	

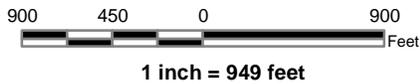
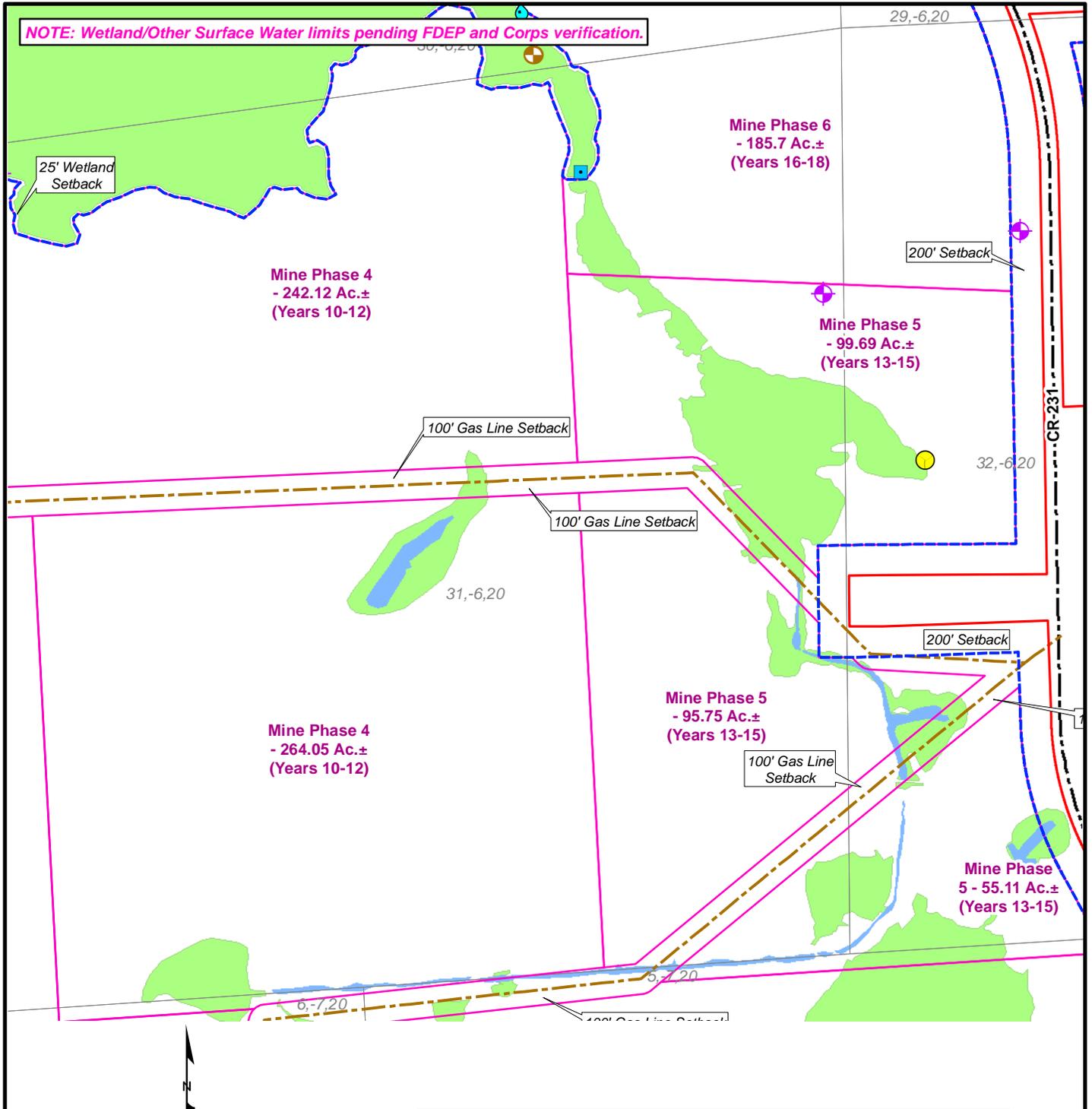


PROJECT NO. 20163103.001A
 DRAWN: 4/20/2016
 DRAWN BY: NL
 CHECKED BY: EJM
 FILE NAME: 16-0420--HPS
 Bradford SUP-MinePlan.mxd

Conceptual Mine Plan - View 9
 HPS II Enterprises
 Mining Master Plan
 Bradford County, Florida

FIGURE
 12J

Document Path: \\mountdora\MOUNTDORA-DATA\GIS\CAD\HPS Enterprises\16-0420-001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000-County SUP\16-0420--HPS Bradford SUP-MinePlan.mxd



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend	
 Project Boundary (5,352.62 Ac.±)	 Stormwater Discharge Locations
 Section/Township/Range	 Monitoring Locations
 Gas Line Location	● Rainfall
 Limits of Disturbance (3,311.24 Ac.±)	 Air Quality
 Mining Phases (3,155.73 Ac.±)	● Groundwater Monitoring
 Wetland (2,151.78 Ac.±)	● Surface Waterflow and Quality
 Other Surface Water (23.69 Ac.±)	

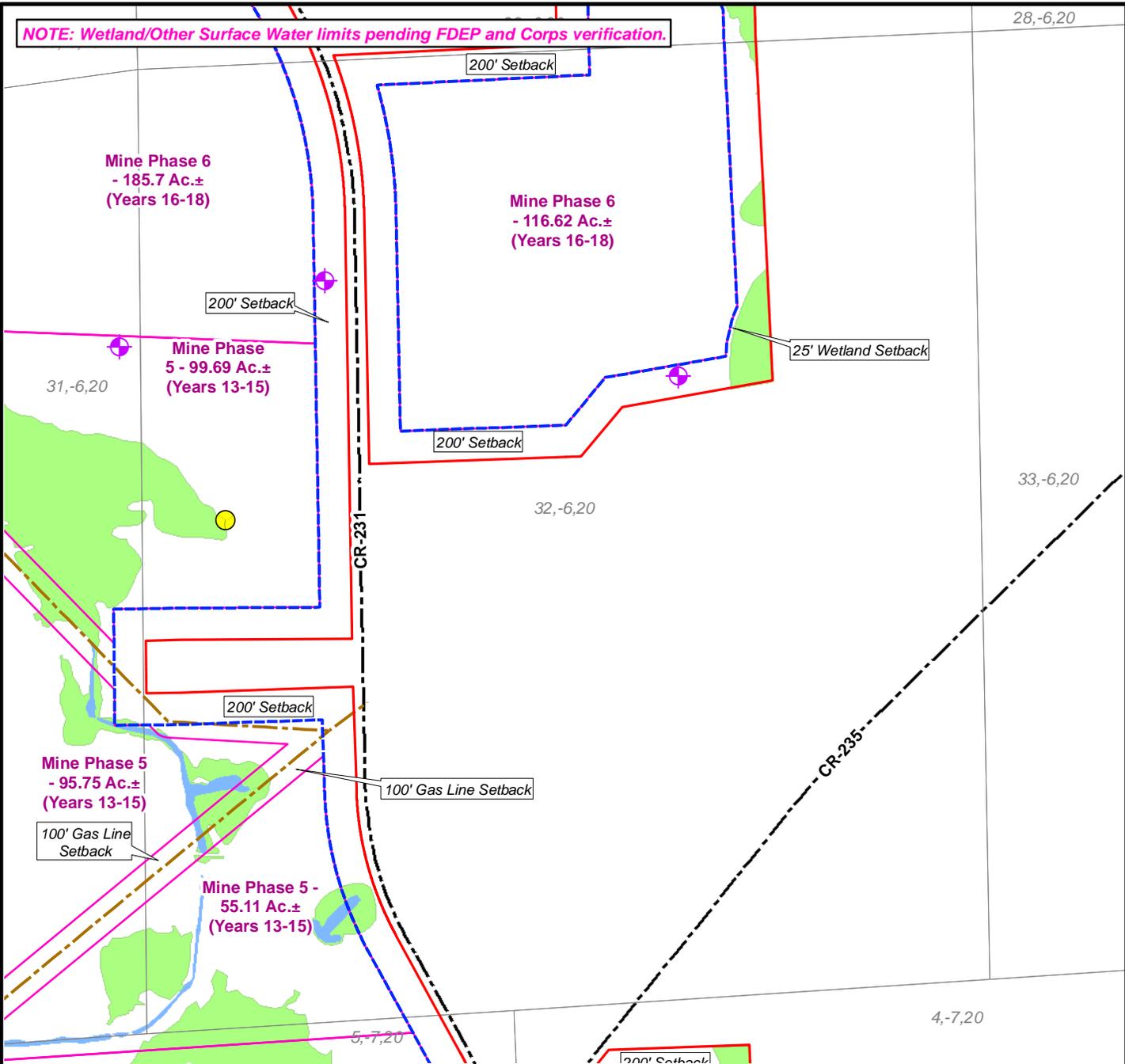


PROJECT NO. 20163103.001A
 DRAWN: 4/20/2016
 DRAWN BY: NL
 CHECKED BY: EJM
 FILE NAME: 16-0420--HPS
 Bradford SUP-MinePlan.mxd

Conceptual Mine Plan - View 10
 HPS II Enterprises
 Mining Master Plan
 Bradford County, Florida

FIGURE
 12K

Document Path: \\mountain\mountain\dora-data\giscad\hps Enterprises Inc\20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000 County SUP\16-0420--HPS Bradford SUP-MinePlan.mxd



NOTE: Wetland/Other Surface Water limits pending FDEP and Corps verification.

Mine Phase 6
- 185.7 Ac.±
(Years 16-18)

Mine Phase 6
- 116.62 Ac.±
(Years 16-18)

Mine Phase 5 - 99.69 Ac.±
(Years 13-15)

Mine Phase 5 - 95.75 Ac.±
(Years 13-15)

Mine Phase 5 - 55.11 Ac.±
(Years 13-15)

Legend

- Project Boundary (5,352.62 Ac.±)
- Section/Township/Range
- Gas Line Location
- Limits of Disturbance (3,311.24 Ac.±)
- Mining Phases (3,155.73 Ac.±)
- Wetland (2,151.78 Ac.±)
- Other Surface Water (23.69 Ac.±)

Monitoring Locations

- Air Quality
- ★ Groundwater Monitoring

900 450 0 900 Feet
1 inch = 949 feet

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

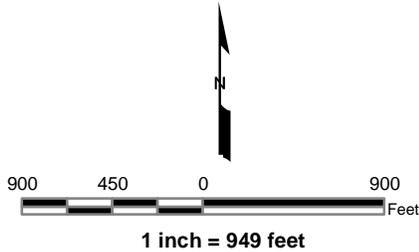
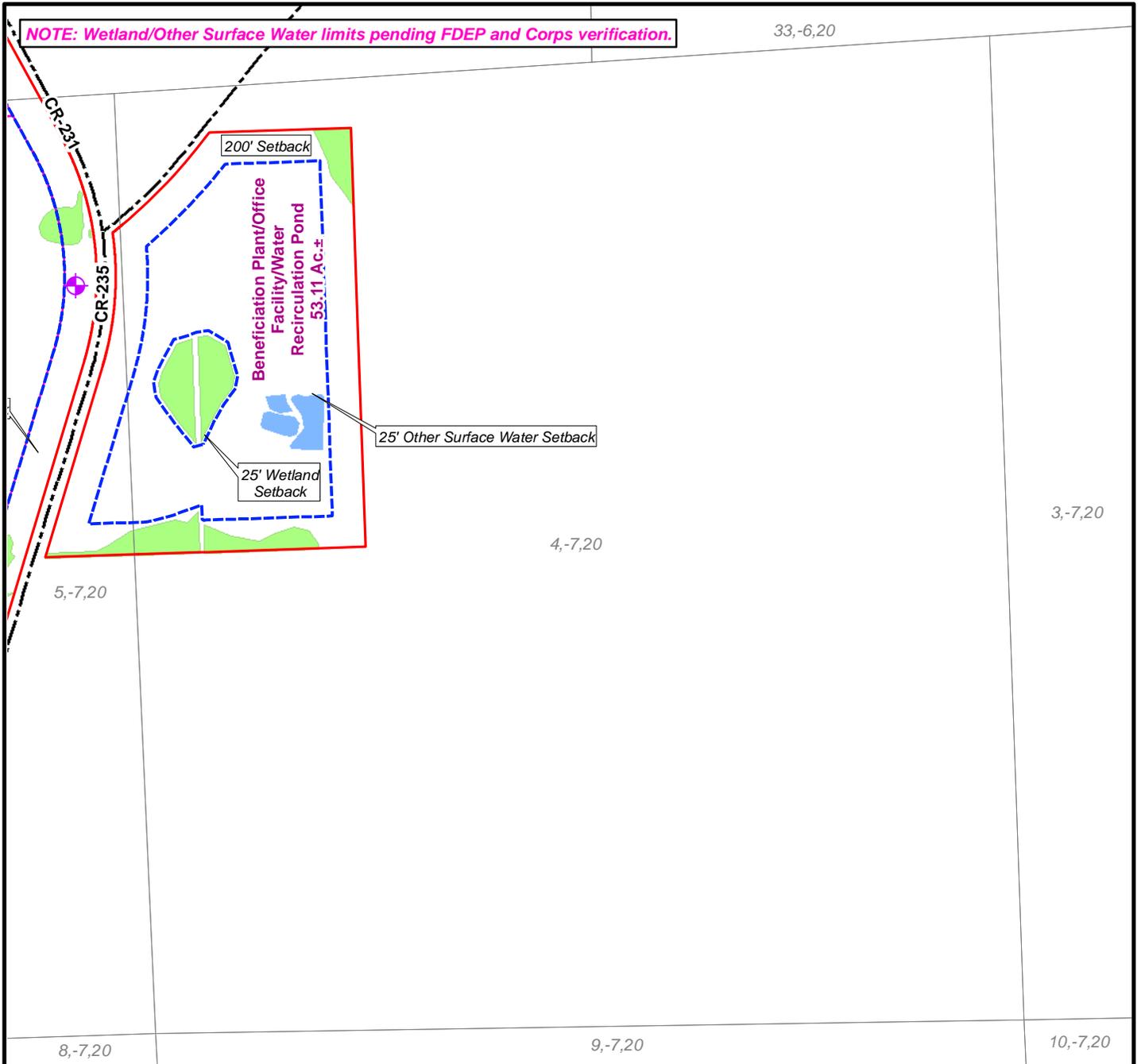


PROJECT NO. 20163103.001A
DRAWN: 4/20/2016
DRAWN BY: NL
CHECKED BY: EJM
FILE NAME: 16-0420--HPS
Bradford SUP-MinePlan.mxd

Conceptual Mine Plan - View 11
**HPS II Enterprises
Mining Master Plan
Bradford County, Florida**

FIGURE
12L

Document Path: V:\mountdora\MOUNTDORA-DATA\GIS\CAD\HPS Enterprises Inc\20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000 County SUP\16-0420--HPS Bradford SUP-MinePlan.mxd

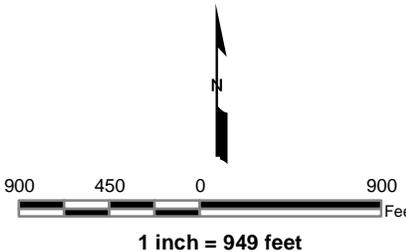
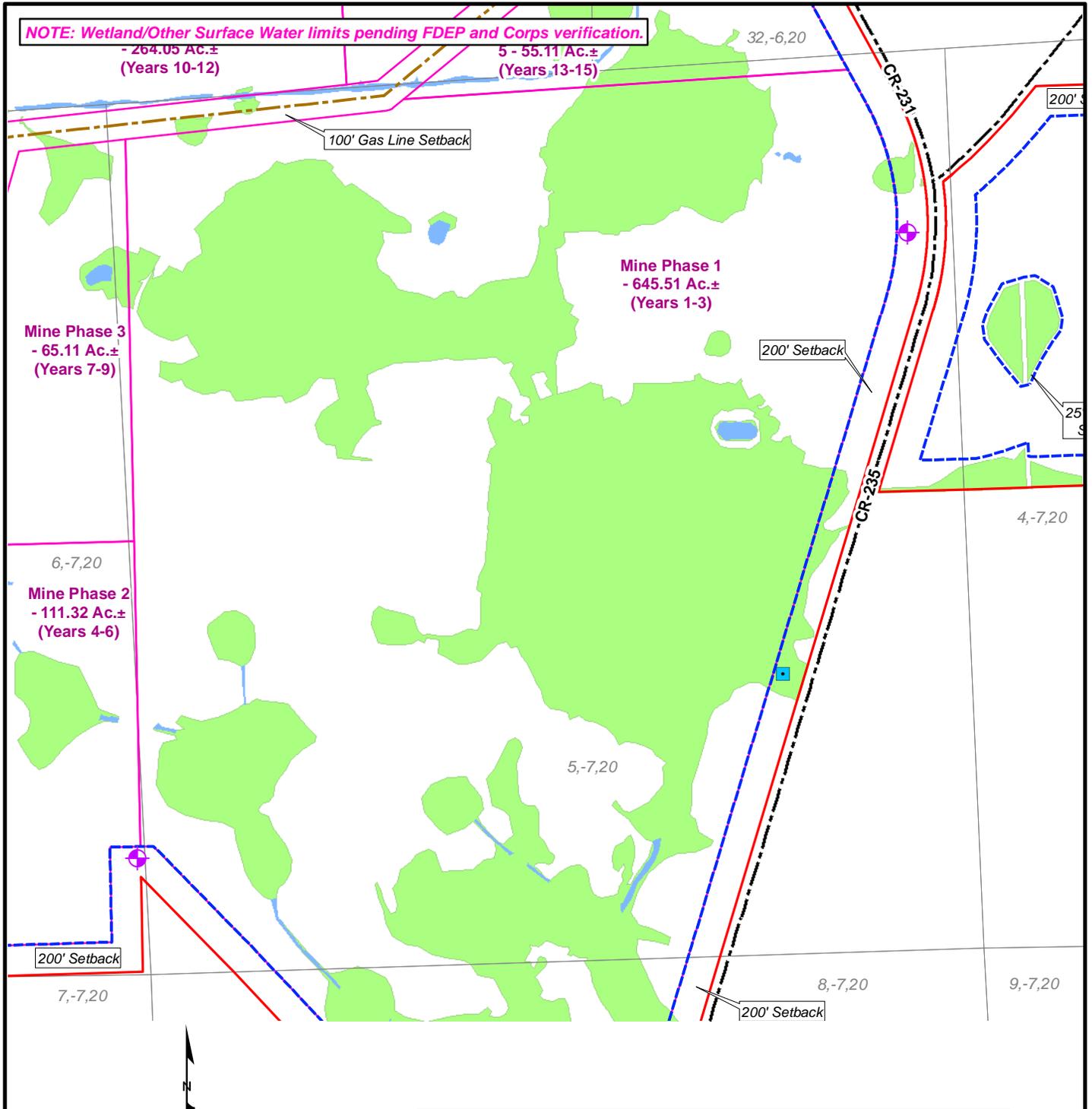


The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend	
	Project Boundary (5,352.62 Ac.±)
	Section/Township/Range
	Limits of Disturbance (3,311.24 Ac.±)
	Mining Phases (3,155.73 Ac.±)
	Wetland (2,151.78 Ac.±)
	Other Surface Water (23.69 Ac.±)
Monitoring Locations	
	Groundwater Monitoring

	PROJECT NO. 20163103.001A	Conceptual Mine Plan - View 12	FIGURE 12M
	DRAWN: 4/20/2016		
	DRAWN BY: NL	HPS II Enterprises Mining Master Plan Bradford County, Florida	
	CHECKED BY: EJM		
FILE NAME: 16-0420--HPS Bradford SUP-MinePlan.mxd			

Document Path: \\mountain\MOUNTDORA-DATA\GIS\CAD\HPS Enterprises\Incl20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000 County SUP\16-0420--HPS Bradford SUP-MinePlan.mxd



Legend	
 Project Boundary (5,352.62 Ac.±)	■ Stormwater Discharge Locations
 Section/Township/Range	⊕ Groundwater Monitoring
 Gas Line Location	
 Limits of Disturbance (3,311.24 Ac.±)	
 Mining Phases (3,155.73 Ac.±)	
 Wetland (2,151.78 Ac.±)	
 Other Surface Water (23.69 Ac.±)	

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.



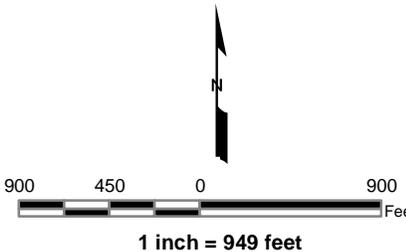
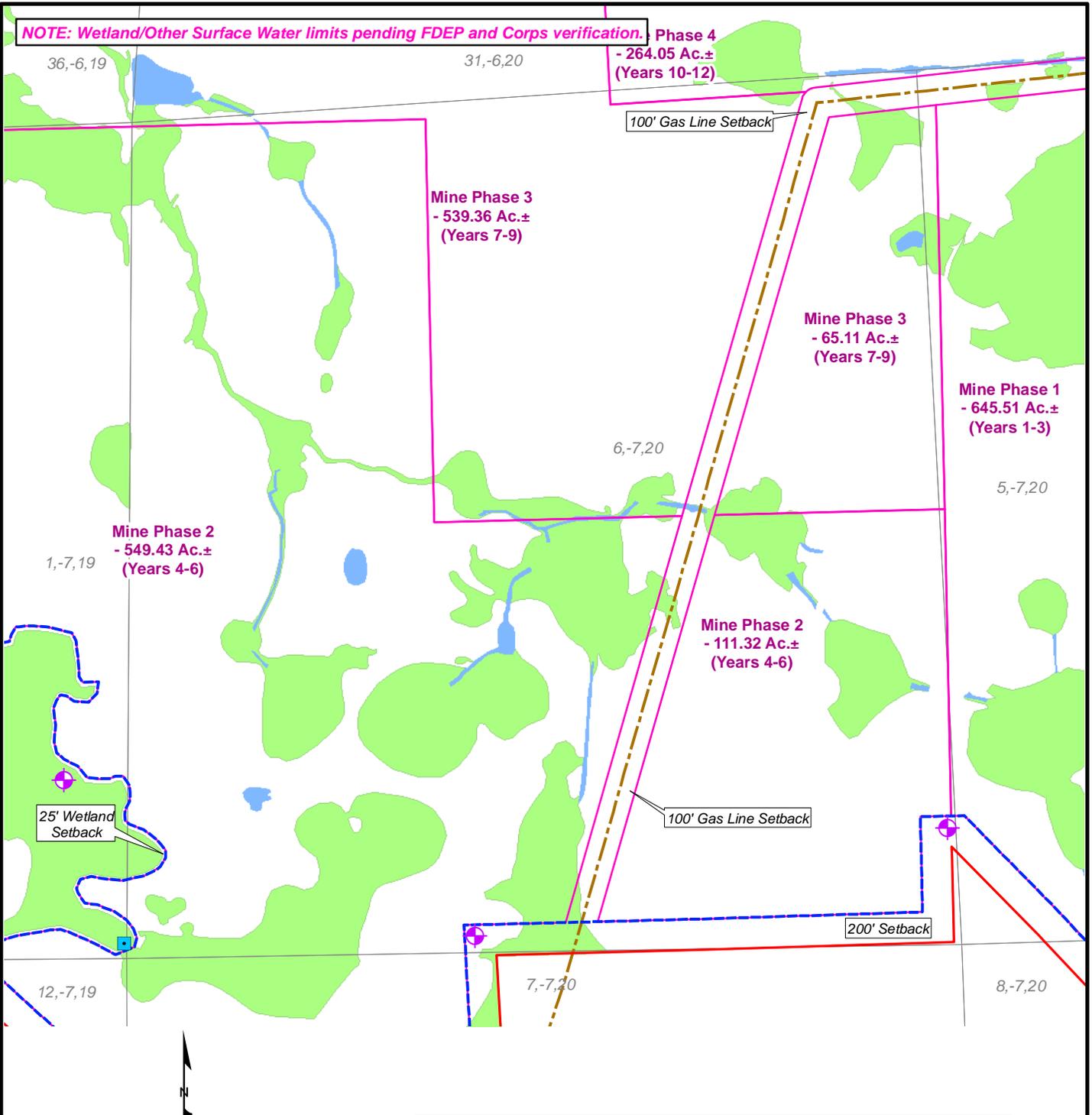
PROJECT NO.	20163103.001A
DRAWN:	4/20/2016
DRAWN BY:	NL
CHECKED BY:	EJM
FILE NAME:	16-0420--HPS Bradford SUP-MinePlan.mxd

Conceptual Mine Plan - View 13

**HPS II Enterprises
Mining Master Plan
Bradford County, Florida**

FIGURE
12N

Document Path: \\mountdora\MOUNTDORA-DATA\GIS\CAD\HPS Enterprises Inc\20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000 County SUP\16-0420--HPS Bradford SUP-MinePlan.mxd



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend	
 Project Boundary (5,352.62 Ac.±)	 Stormwater Discharge Locations
 Section/Township/Range	 Monitoring Locations
 Gas Line Location	 Groundwater Monitoring
 Limits of Disturbance (3,311.24 Ac.±)	
 Mining Phases (3,155.73 Ac.±)	
 Wetland (2,151.78 Ac.±)	
 Other Surface Water (23.69 Ac.±)	

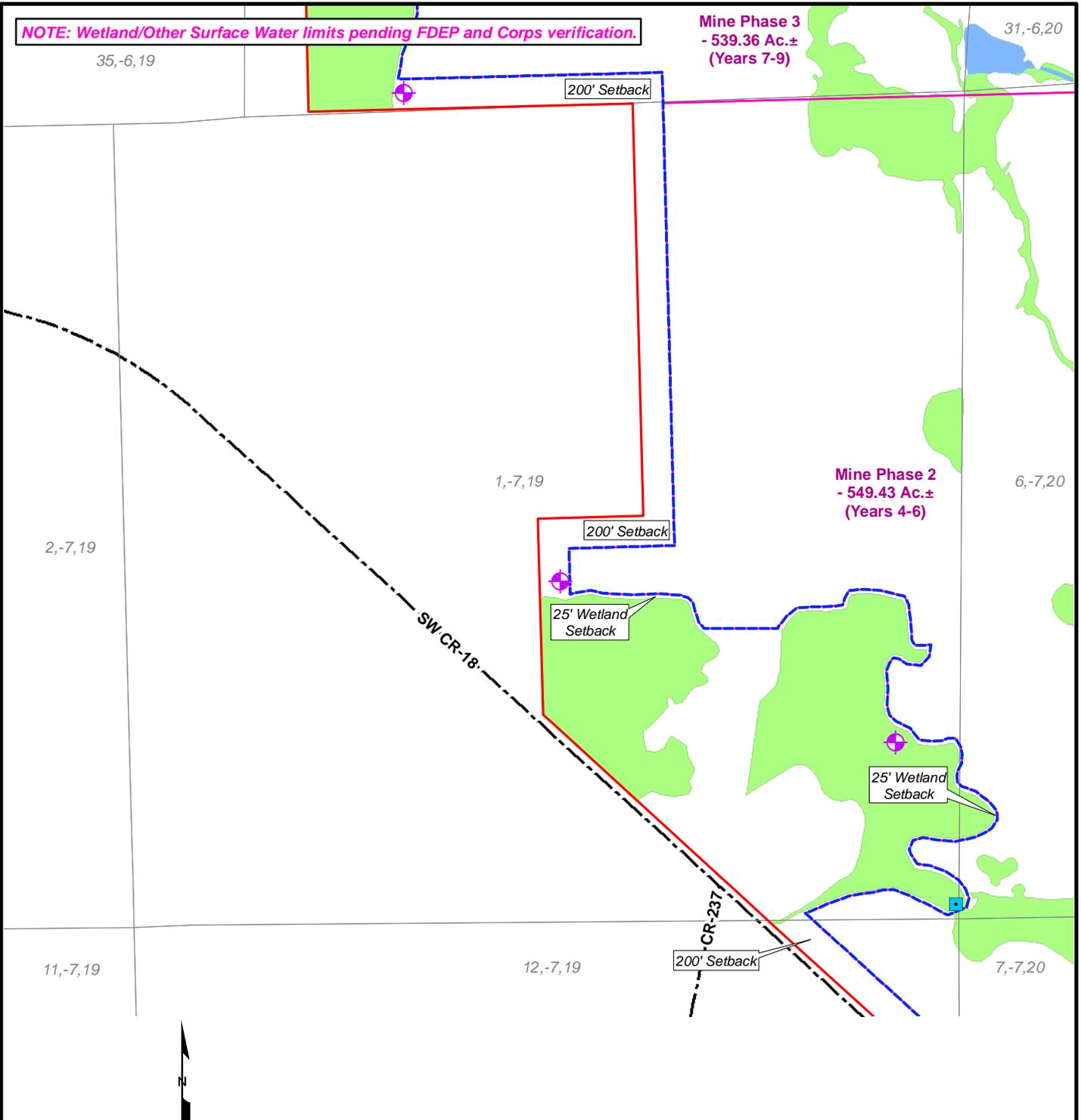


PROJECT NO.	20163103.001A
DRAWN:	4/20/2016
DRAWN BY:	NL
CHECKED BY:	EJM
FILE NAME:	16-0420--HPS Bradford SUP-MinePlan.mxd

<p>Conceptual Mine Plan - View 14</p> <p>HPS II Enterprises Mining Master Plan Bradford County, Florida</p>

<p>FIGURE</p> <p>120</p>

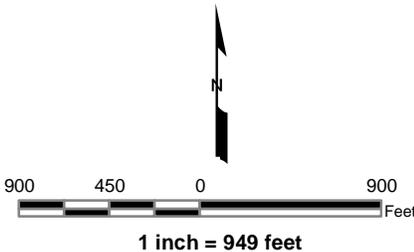
Document Path: V:\mountain\MOUNTDORA-DATA\GIS\CAD\HPS Enterprises Inc\20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000 County SUP\16-0420--HPS Bradford SUP-MinePlan.mxd



NOTE: Wetland/Other Surface Water limits pending FDEP and Corps verification.

Mine Phase 3
- 539.36 Ac.±
(Years 7-9)

Mine Phase 2
- 549.43 Ac.±
(Years 4-6)



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend	
Project Boundary (5,352.62 Ac.±)	Stormwater Discharge Locations
Section/Township/Range	Groundwater Monitoring
Limits of Disturbance (3,311.24 Ac.±)	Monitoring Locations
Mining Phases (3,155.73 Ac.±)	
Wetland (2,151.78 Ac.±)	
Other Surface Water (23.69 Ac.±)	



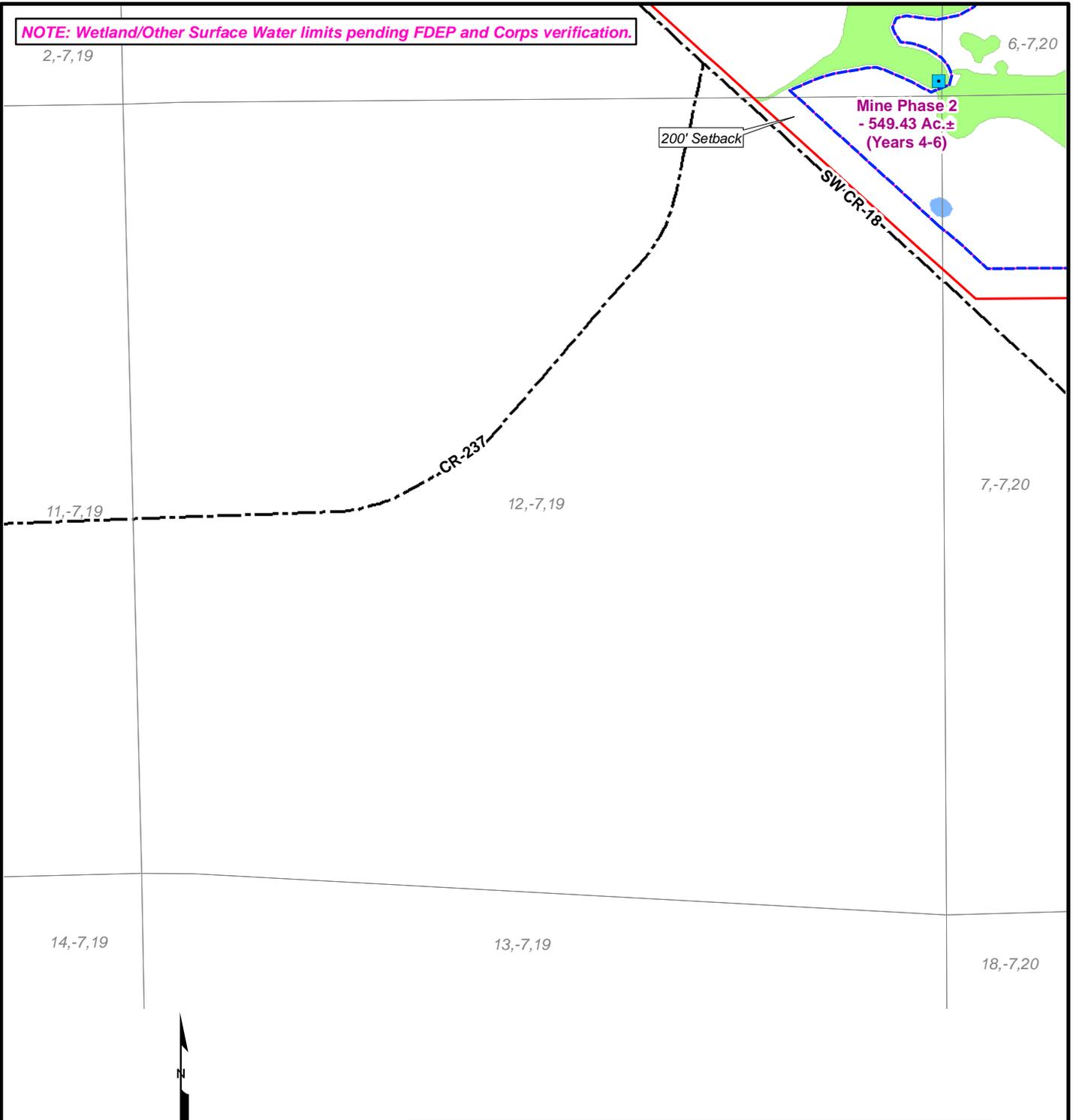
PROJECT NO.	20163103.001A
DRAWN:	4/20/2016
DRAWN BY:	NL
CHECKED BY:	EJM
FILE NAME:	16-0420--HPS Bradford SUP-MinePlan.mxd

Conceptual Mine Plan - View 15

**HPS II Enterprises
Mining Master Plan
Bradford County, Florida**

FIGURE
12P

NOTE: Wetland/Other Surface Water limits pending FDEP and Corps verification.



**Mine Phase 2
- 549.43 Ac.±
(Years 4-6)**

200' Setback

CR-237

SW-CR-18

11,-7,19

12,-7,19

7,-7,20

14,-7,19

13,-7,19

18,-7,20



1 inch = 949 feet



Legend	
	Project Boundary (5,352.62 Ac.±)
	Section/Township/Range
	Limits of Disturbance (3,311.24 Ac.±)
	Mining Phases (3,155.73 Ac.±)
	Wetland (2,151.78 Ac.±)
	Other Surface Water (23.69 Ac.±)
	Stormwater Discharge Locations

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.



PROJECT NO.	20163103.001A
DRAWN:	4/20/2016
DRAWN BY:	NL
CHECKED BY:	EJM
FILE NAME:	16-0420--HPS Bradford SUP-MinePlan.mxd

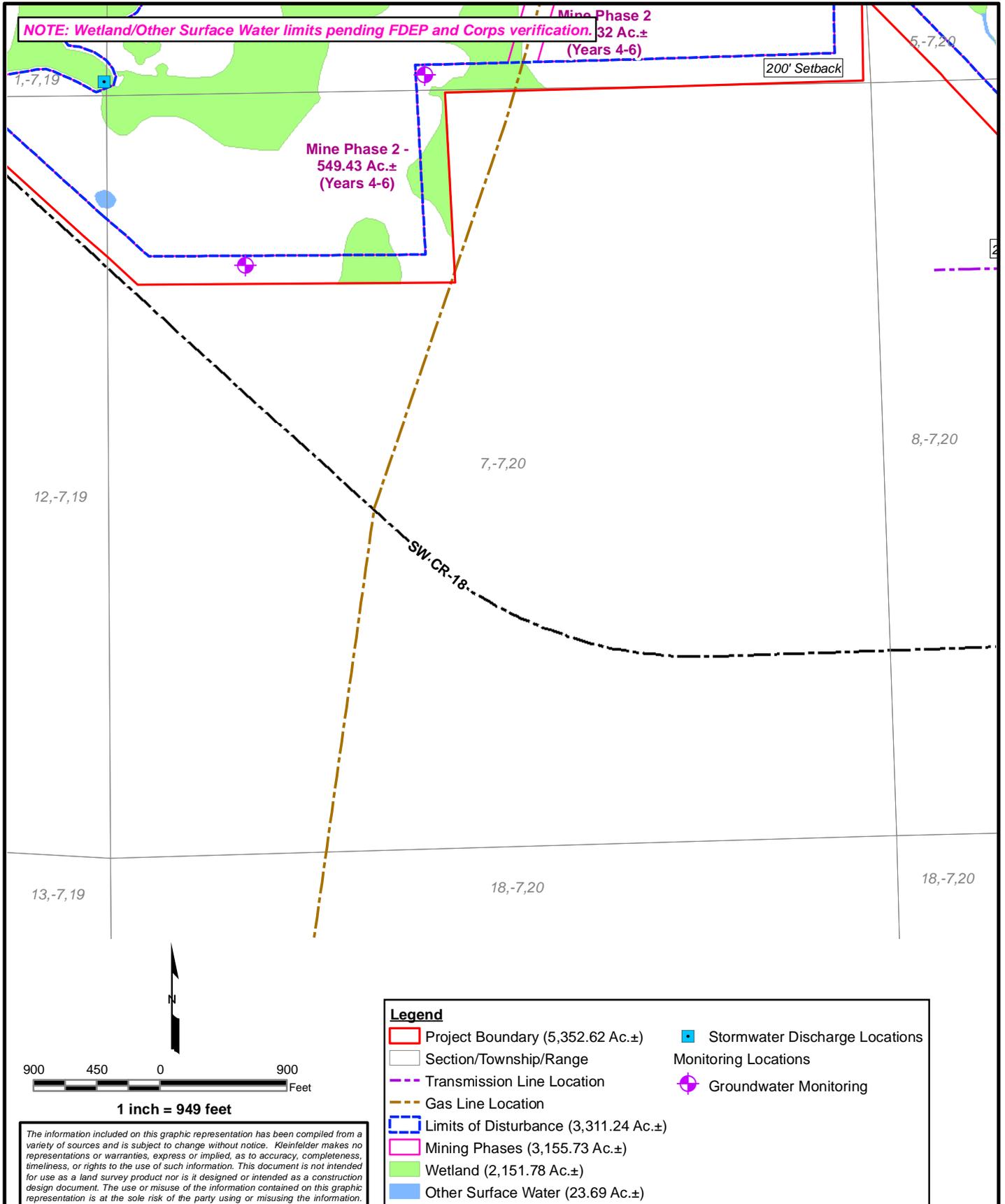
Conceptual Mine Plan - View 16

**HPS II Enterprises
Mining Master Plan
Bradford County, Florida**

FIGURE
12Q

Document Path: V:\mountdora\MOUNTDORA-DATA\GIS\CADD\HPS Enterprises\Incl20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000\County SUP\16-0420--HPS Bradford SUP-MinePlan.mxd

Document Path: \\mountdora\MOUNTDORA-DATA\GIS\CAD\HPS Enterprises Inc\20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000 County SUP\16-0420--HPS Bradford SUP-MinePlan.mxd



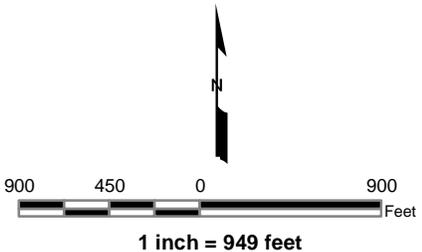
NOTE: Wetland/Other Surface Water limits pending FDEP and Corps verification.

**Mine Phase 2 -
549.43 Ac.±
(Years 4-6)**

**Mine Phase 2
32 Ac.±
(Years 4-6)**

200' Setback

SW-CR-18



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend	
 Project Boundary (5,352.62 Ac.±)	 Stormwater Discharge Locations
 Section/Township/Range	⊕ Monitoring Locations
 Transmission Line Location	⊕ Groundwater Monitoring
 Gas Line Location	
 Limits of Disturbance (3,311.24 Ac.±)	
 Mining Phases (3,155.73 Ac.±)	
 Wetland (2,151.78 Ac.±)	
 Other Surface Water (23.69 Ac.±)	



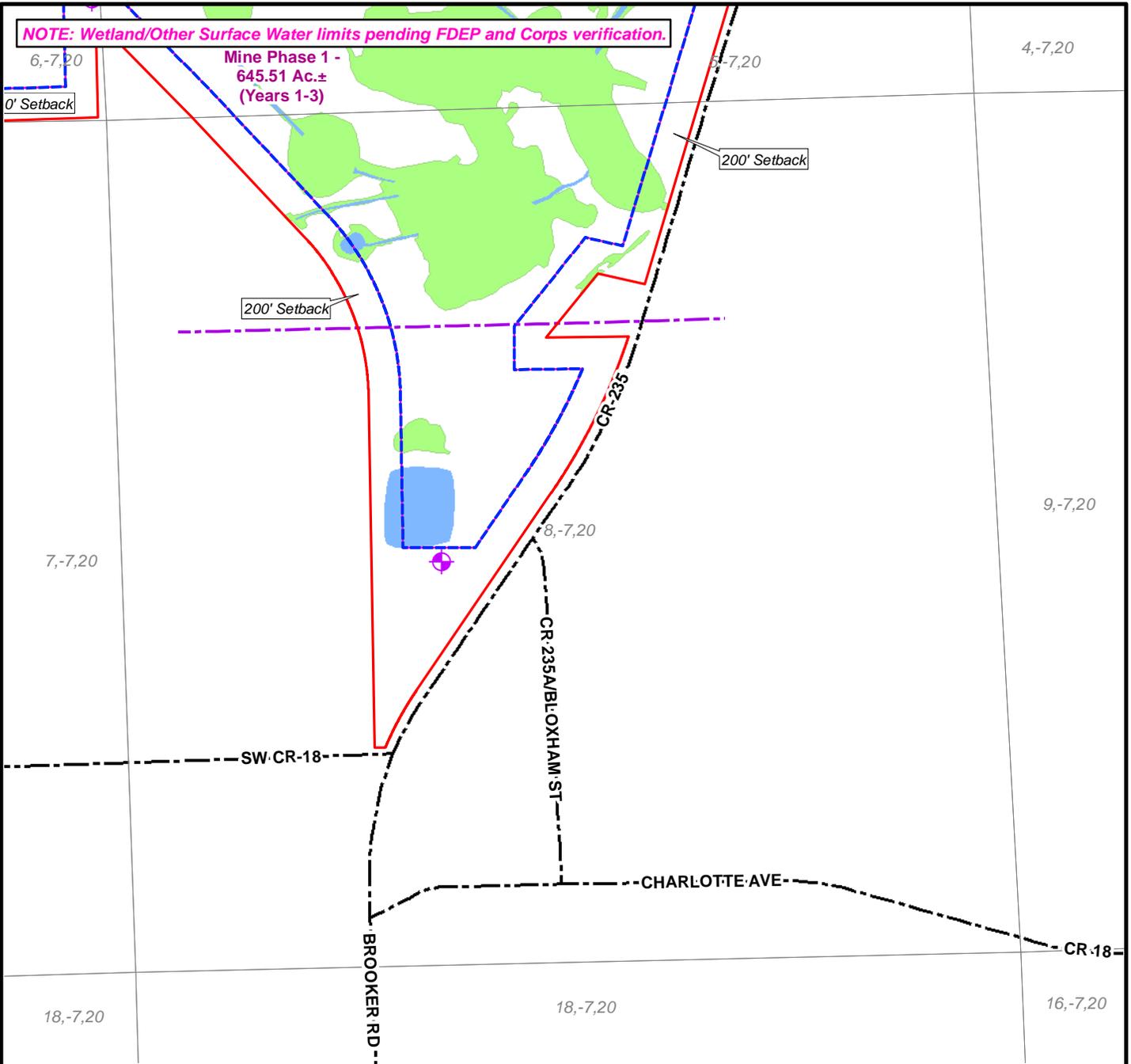
PROJECT NO.	20163103.001A
DRAWN:	4/20/2016
DRAWN BY:	NL
CHECKED BY:	EJM
FILE NAME:	16-0420--HPS Bradford SUP-MinePlan.mxd

FIGURE
Conceptual Mine Plan - View 17

**HPS II Enterprises
Mining Master Plan
Bradford County, Florida**

12R

Document Path: \\mountdora\MOUNTDORA-DATA\GIS\CADD\HPS Enterprises\Incl20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000 County SUP\16-0420--HPS Bradford SUP-MinePlan.mxd

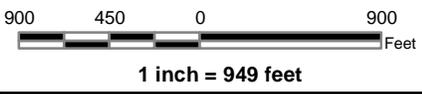


NOTE: Wetland/Other Surface Water limits pending FDEP and Corps verification.

**Mine Phase 1 -
645.51 Ac.±
(Years 1-3)**

200' Setback

200' Setback



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend

- Project Boundary (5,352.62 Ac.±)
- Section/Township/Range
- Transmission Line Location
- Limits of Disturbance (3,311.24 Ac.±)
- Mining Phases (3,155.73 Ac.±)
- Wetland (2,151.78 Ac.±)
- Other Surface Water (23.69 Ac.±)

Monitoring Locations

- ◆ Groundwater Monitoring

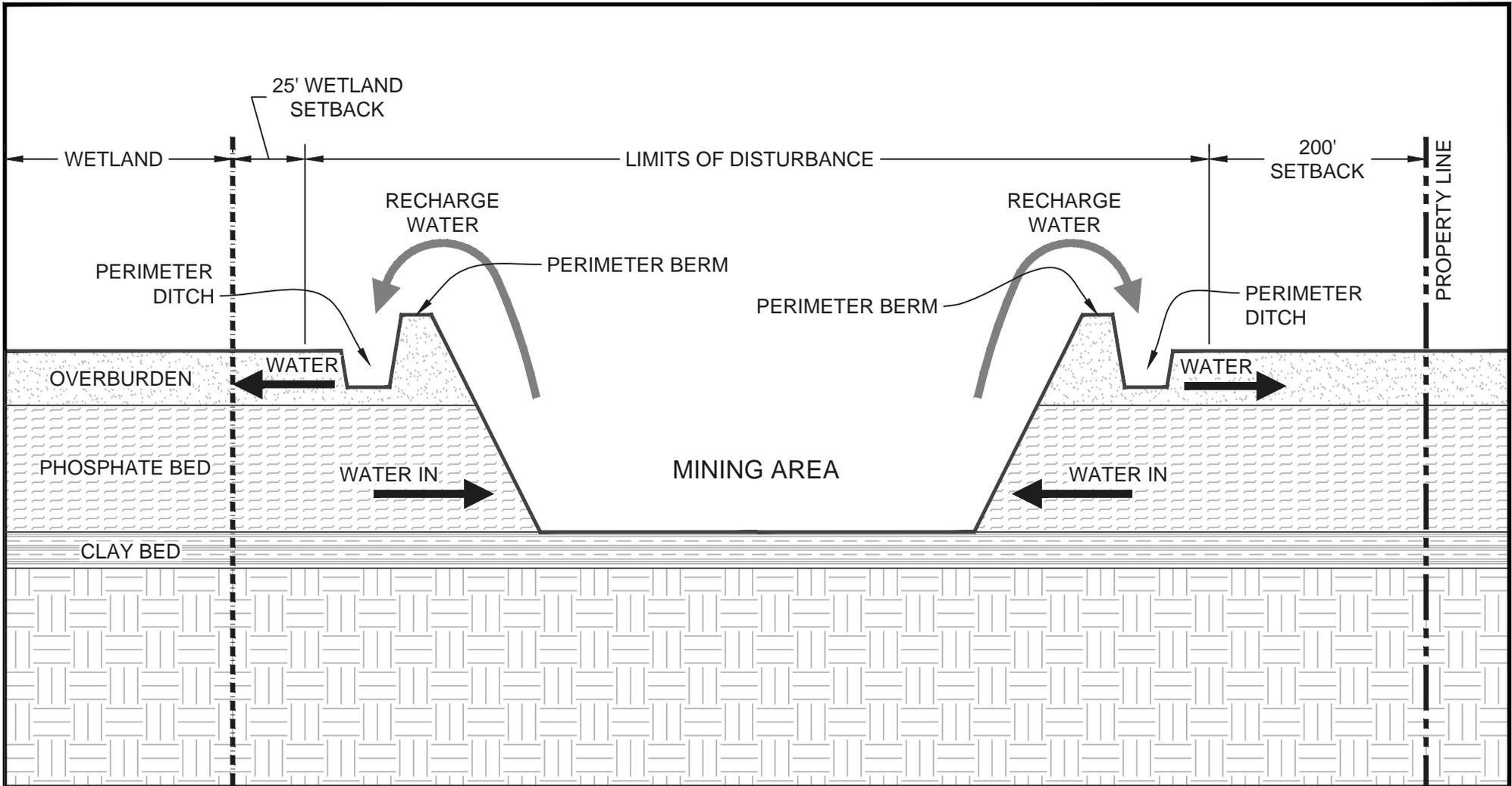


PROJECT NO. 20163103.001A
 DRAWN: 4/20/2016
 DRAWN BY: NL
 CHECKED BY: EJM
 FILE NAME: 16-0420--HPS
 Bradford SUP-MinePlan.mxd

Conceptual Mine Plan - View 18

**HPS II Enterprises
 Mining Master Plan
 Bradford County, Florida**

FIGURE
12S



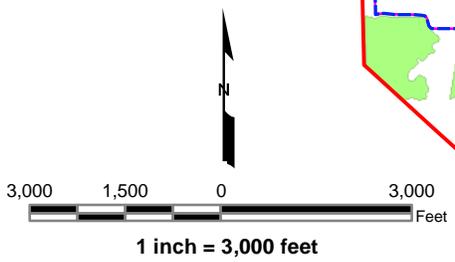
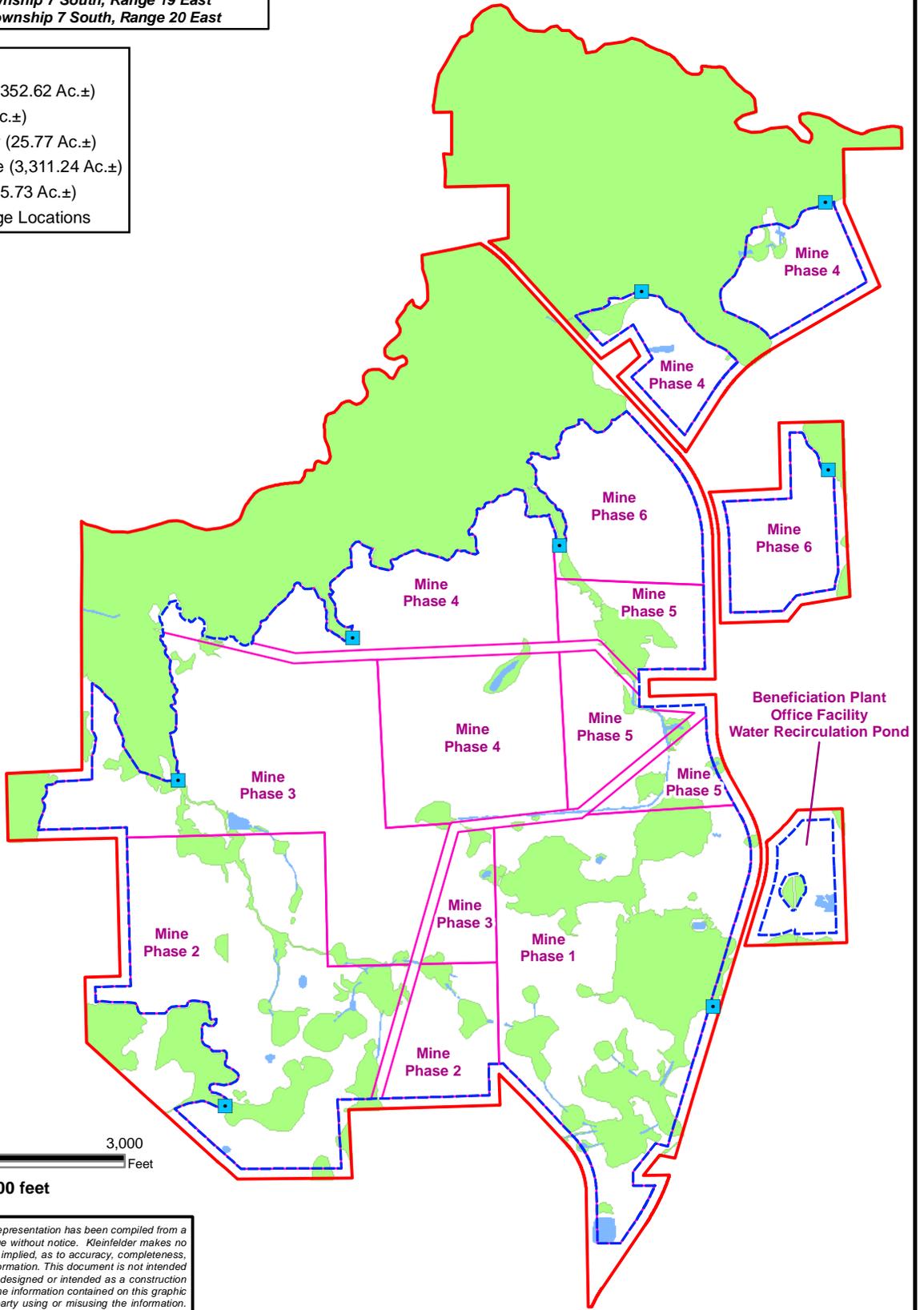
The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

	PROJECT NO. 20163103.001A	Ditch and Berm Detail	FIGURE 12T
	DRAWN: 4/21/2016		
	DRAWN BY: NL	HPS II Enterprises Mining Master Plan Bradford County, Florida	
	CHECKED BY: EJM		
FILE NAME: HPS Bradford SUP-Details.dwg			

Sections 25 & 36, Township 6 South, Range 19 East
 Sections 19, 20, 29, 30, 31 & 32, Township 6 South, Range 20 East
 Sections 1 & 12, Township 7 South, Range 19 East
 Sections 5, 6, 7 & 8, Township 7 South, Range 20 East

Legend

- Project Boundary (5,352.62 Ac.±)
- Wetland (2,161.78 Ac.±)
- Other Surface Water (25.77 Ac.±)
- Limits of Disturbance (3,311.24 Ac.±)
- Mining Phases (3,155.73 Ac.±)
- Stormwater Discharge Locations



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

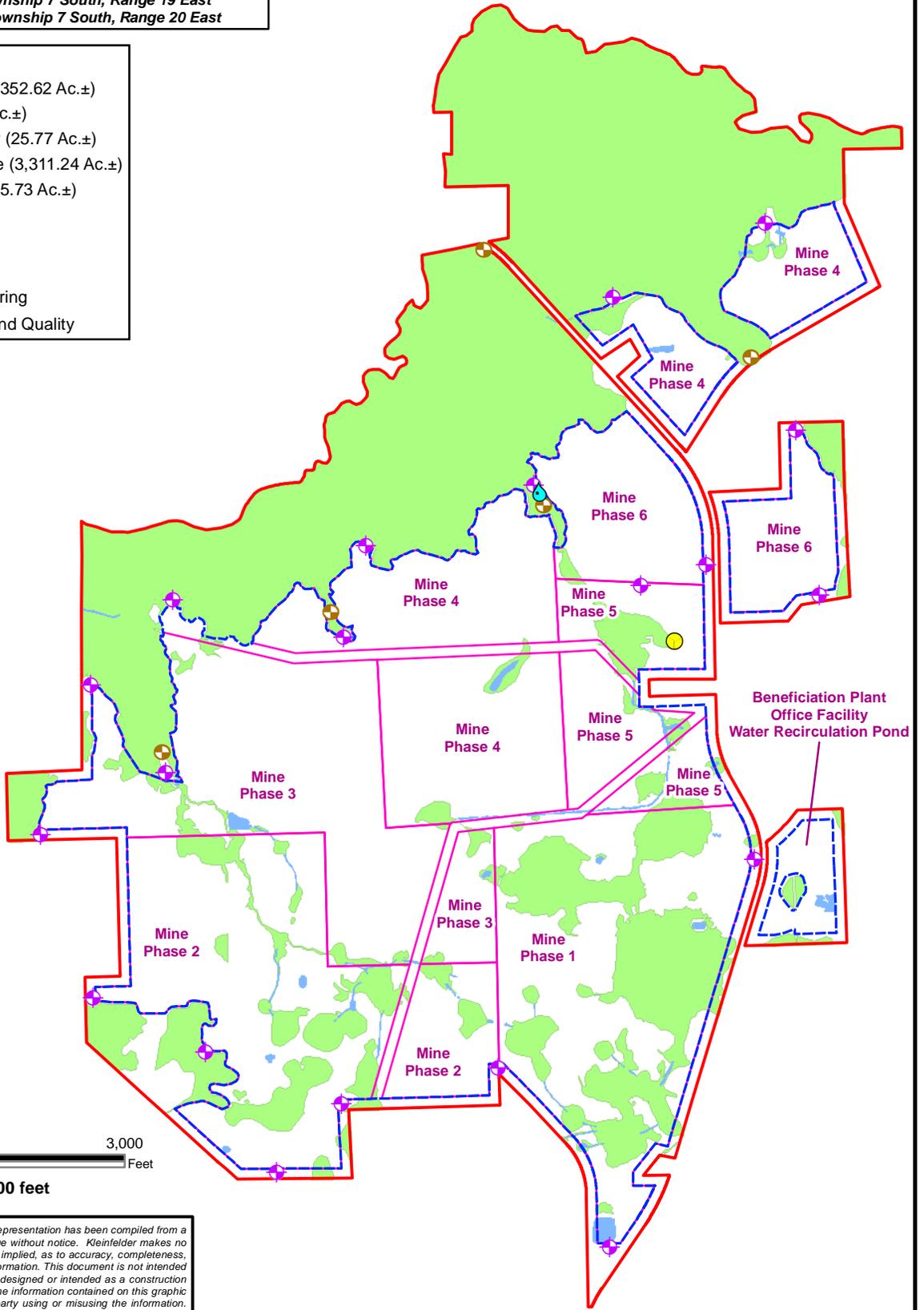
Document Path: V:\mountain\MOUNTDORA-DATA\GISCAD\HPS Enterprises Inc\20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000-County SUP\16-0420--HPS Bradford SUP-Discharge.mxd

 KLEINFELDER <i>Bright People. Right Solutions.</i> www.kleinfelder.com	PROJECT NO. 20163103.001A	Points of Discharge	FIGURE
	DRAWN: 4/20/2016		13
	DRAWN BY: NL		
	CHECKED BY: EJM	HPS II Enterprises Mining Master Plan Bradford County, Florida	
FILE NAME: 16-0420--HPS Bradford SUP-Discharge.mxd			

Sections 25 & 36, Township 6 South, Range 19 East
 Sections 19, 20, 29, 30, 31 & 32, Township 6 South, Range 20 East
 Sections 1 & 12, Township 7 South, Range 19 East
 Sections 5, 6, 7 & 8, Township 7 South, Range 20 East

Legend

- Project Boundary (5,352.62 Ac.±)
 - Wetland (2,161.78 Ac.±)
 - Other Surface Water (25.77 Ac.±)
 - Limits of Disturbance (3,311.24 Ac.±)
 - Mining Phases (3,155.73 Ac.±)
- Monitoring Locations
- Rainfall
 - Air Quality
 - ◆ Groundwater Monitoring
 - Surface Waterflow and Quality



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.



PROJECT NO. 20163103.001A
 DRAWN: 4/20/2016
 DRAWN BY: NL
 CHECKED BY: EJM
 FILE NAME: 16-0420--HPS
 Bradford SUP-Monitoring.mxd

Monitoring Plan

HPS II Enterprises
 Mining Master Plan
 Bradford County, Florida

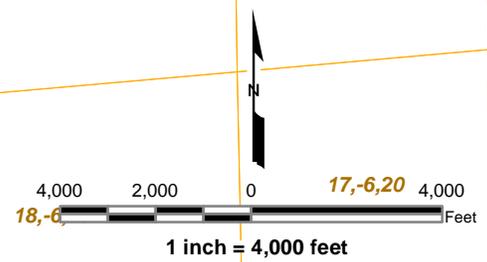
FIGURE

14

FLORIDA LAND USE, COVER AND FORMS CLASSIFICATION SYSTEM, 1999

FLUCFCS CODE	LAND USE	ACREAGE	%
110	Residential, Low Density	7.61	0.14
211	Improved Pasture	2707.21	50.58
213	Woodland Pasture	7.62	0.14
214	Row Crops	12.58	0.23
411	Pine Flatwoods	27.73	0.52
420	Upland Hardwood Forests	7.46	0.14
434	Hardwood - Coniferous Mixed	74.66	1.39
441	Coniferous Plantations	47.86	0.89
442	Hardwood Plantations	2.09	0.04
513	Ditches	0.71	0.01
514	Cattle Ponds	2.47	0.05
524	Lakes less than 10 acres which are dominant features	265.56	4.96
534	Reservoirs less than 10 acres which are dominant features	0.33	0.01
610	Wetland Hardwood Forests	773.79	14.46
613	Gum Swamps	5.47	0.10
621	Cypress	1.95	0.04
630	Wetland Forested Mixed	1244.69	23.25
640	Vegetated Non-Forested Wetlands	135.16	2.53
641	Freshwater Marshes	9.70	0.18
643	Wet Prairies	14.87	0.28
812	Railroads	1.91	0.04
8145	Roads - Graded and Drained	0.63	0.01
832	Electrical Power Transmission Lines	0.56	0.01
Total		5352.62	100.00

Sections 25 & 36, Township 6 South, Range 19 East
 Sections 19, 20, 29, 30, 31 & 32, Township 6 South, Range 20 East
 Sections 1 & 12, Township 7 South, Range 19 East
 Sections 5, 6, 7 & 8, Township 7 South, Range 20 East



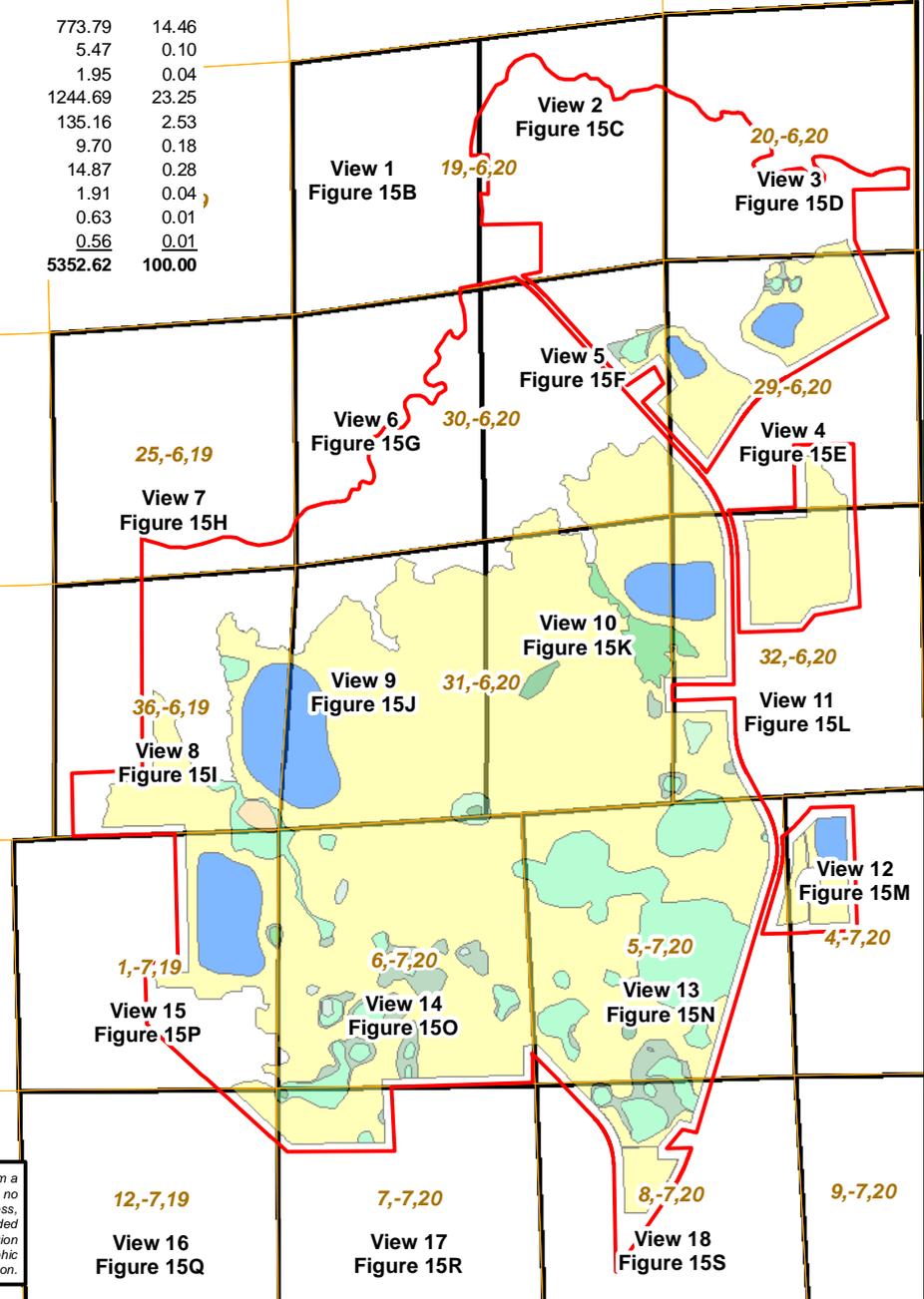
Legend

- Project Boundary (5,352.62 Ac.±)
- Section/Township/Range

Reclamation Land Use

- 211--Improved Pastures (2,509.99 Ac.±)
- 441--Coniferous Plantations (8.75 Ac.±)
- 520--Lakes (265.56 Ac.±)
- 610--Wetland Hardwood Forests (34.73 Ac.±)
- 613--Gum Swamps (5.47 Ac.±)
- 621--Cypress (1.95 Ac.±)
- 630--Wetland Forested Mixed (356.95 Ac.±)
- 640--Vegetated Non-Forested Wetlands (101.79 Ac.±)
- 641--Freshwater Marshes (8.11 Ac.±)
- 643--Freshwater Marshes (14.87 Ac.±)

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.



Document Path: \\mountdora\MOUNTDORA-DATA\GIS\CADD\HPS Enterprises\16-0420--HPS II Bradford Co Phosphate Mine\03-0000-County SUP\16-0420--HPS II Bradford SUP-RecPlanKey.mxd

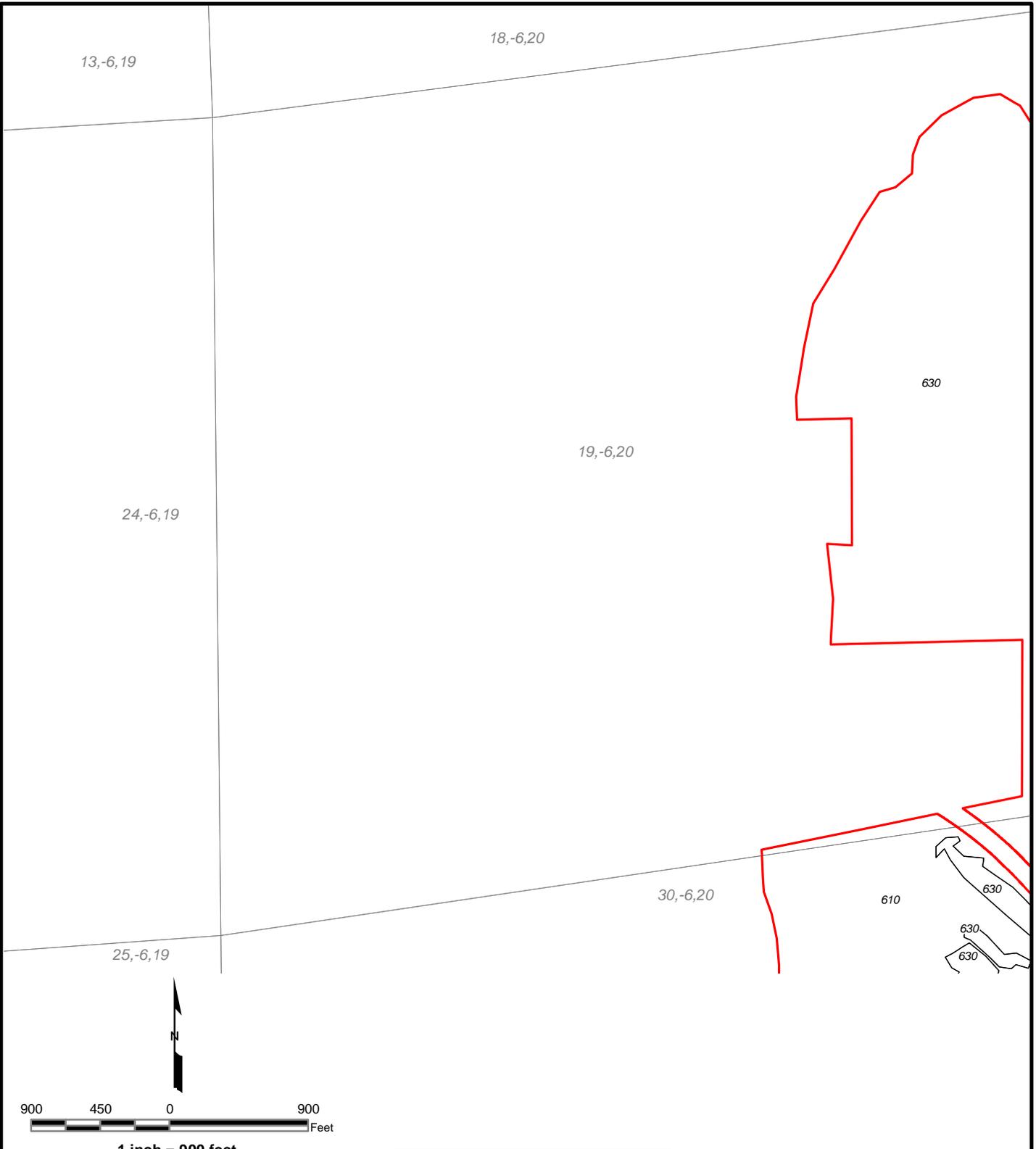
PROJECT NO.	20163103.001A
DRAWN:	4/20/2016
DRAWN BY:	NL
CHECKED BY:	EJM
FILE NAME:	16-0420--HPS Bradford SUP-RecPlanKey.mxd

Conceptual Reclamation Plan
 Key

HPS II Enterprises
 Mining Master Plan
 Bradford County, Florida

FIGURE
15A

Document Path: \\mountdora\mountdora-data\GIS\CADD\HPS Enterprises Inc\20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000 County SUP\16-0420--HPS Bradford SUP-RecPlan.mxd



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend	
	Project Boundary (5,352.62 Ac.±)
	Section/Township/Range
	Land Use (Undisturbed)

KLEINFELDER
Bright People. Right Solutions.
www.kleinfelder.com

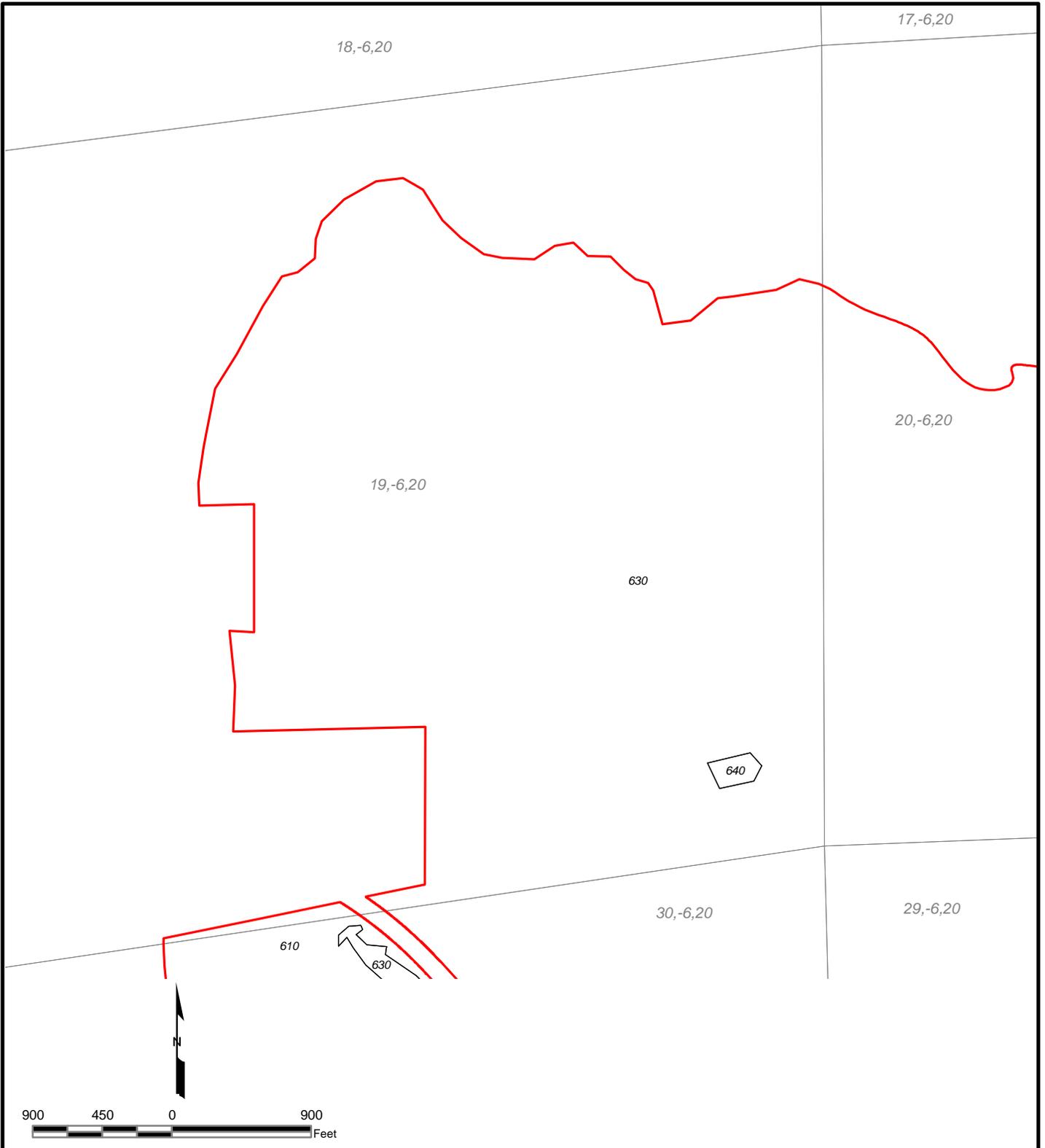
PROJECT NO.	20163103.001A
DRAWN:	4/20/2016
DRAWN BY:	NL
CHECKED BY:	EJM
FILE NAME:	16-0420--HPS Bradford SUP-RecPlan.mxd

Conceptual Reclamation Plan
View 1

**HPS II Enterprises
Mining Master Plan
Bradford County, Florida**

FIGURE
15B

Document Path: \\mountdora\mountdora-data\GIS\CADD\HPS Enterprises\HPS II Bradford Co Phosphate Mine\03-0000\County SUP\16-0420--HPS Bradford SUP-RecPlan.mxd



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend	
	Project Boundary (5,352.62 Ac.±)
	Section/Township/Range
	Land Use (Undisturbed)

KLEINFELDER
Bright People. Right Solutions.
www.kleinfelder.com

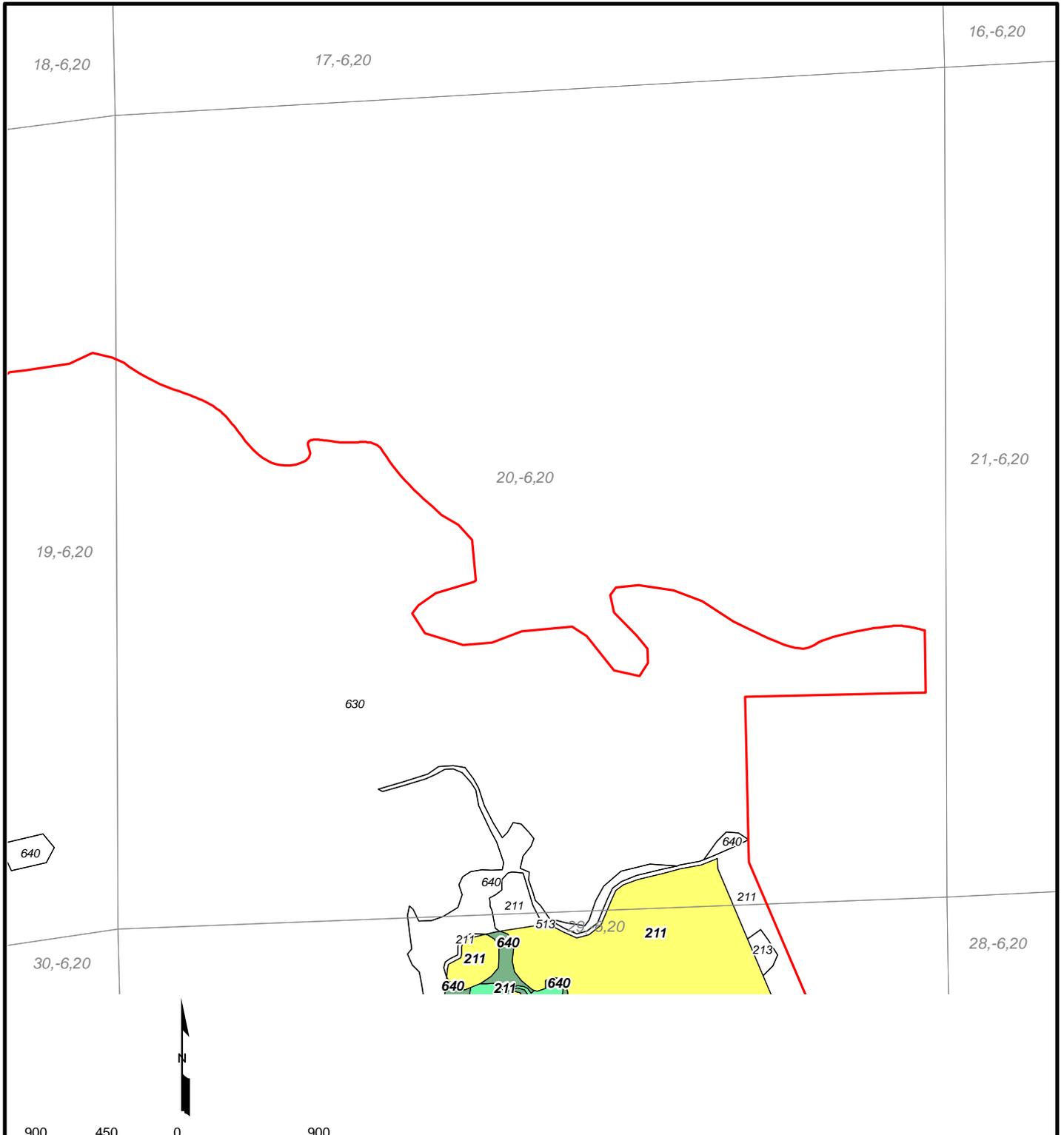
PROJECT NO.	20163103.001A
DRAWN:	4/20/2016
DRAWN BY:	NL
CHECKED BY:	EJM
FILE NAME:	16-0420--HPS Bradford SUP-RecPlan.mxd

Conceptual Reclamation Plan
View 2

**HPS II Enterprises
Mining Master Plan
Bradford County, Florida**

FIGURE
15C

Document Path: \\mountdora\mountdora-data\GIS\CAD\HPS Enterprises\HPS II Bradford Co Phosphate Mine\03-0000\County SUP\16-0420--HPS Bradford SUP-RecPlan.mxd



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend	
	Project Boundary (5,352.62 Ac.±)
	211--Improved Pastures
	Section/Township/Range
	630--Wetland Forested Mixed
	640--Vegetated Non-Forested Wetlands
	Land Use (Undisturbed)
Reclamation Land Use	



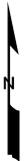
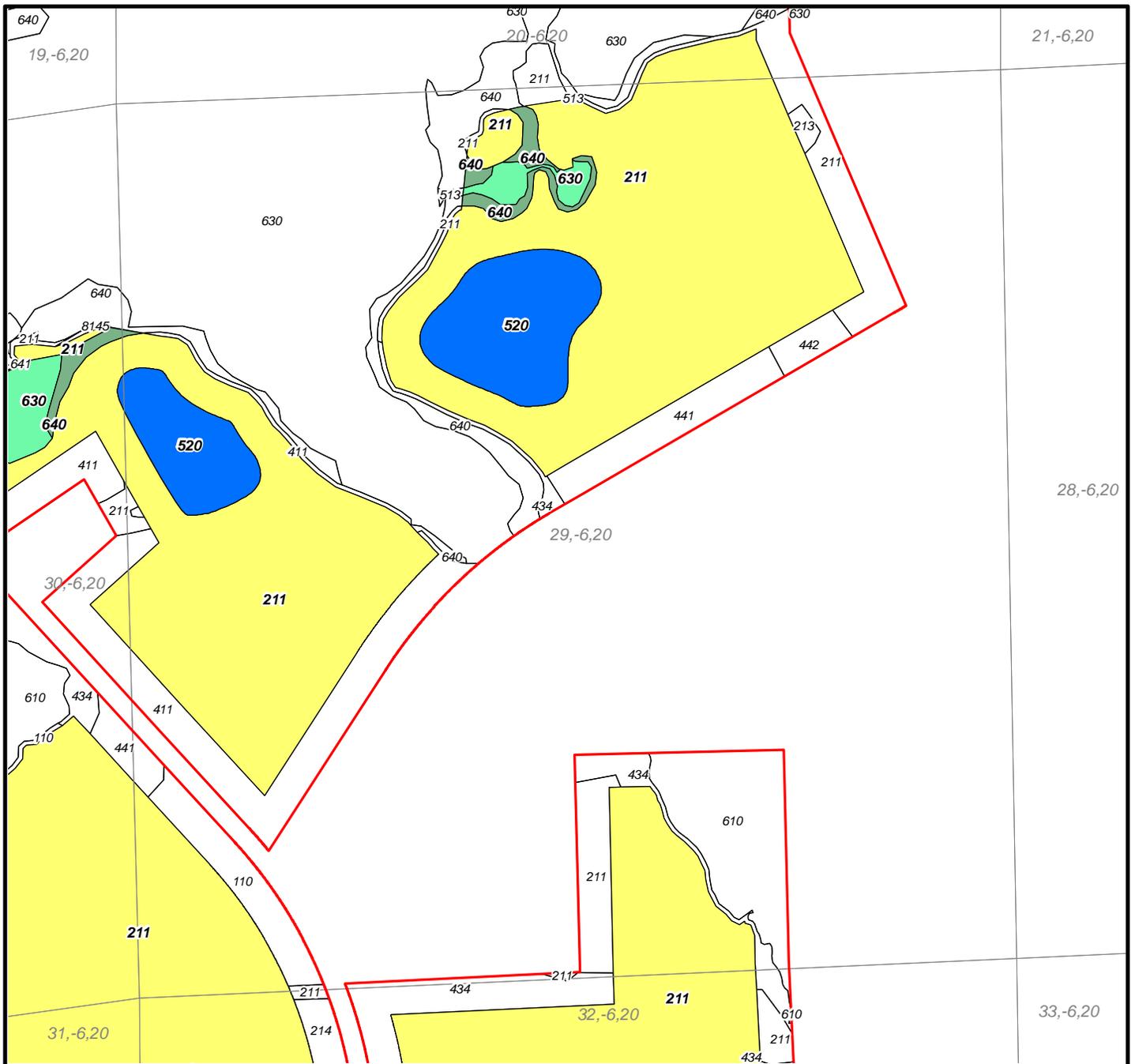
PROJECT NO.	20163103.001A
DRAWN:	4/20/2016
DRAWN BY:	NL
CHECKED BY:	EJM
FILE NAME:	16-0420--HPS Bradford SUP-RecPlan.mxd

Conceptual Reclamation Plan
View 3

HPS II Enterprises
Mining Master Plan
Bradford County, Florida

FIGURE
15D

Document Path: \\mountdora\MOUNTDORA-DATA\GIS\CAD\HPS Enterprises Inc\20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000 County SUP\16-0420-HPS Bradford SUP-RecPlan.mxd



900 450 0 900
Feet

1 inch = 900 feet

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend

- Project Boundary (5,352.62 Ac.±)
- Section/Township/Range
- Land Use (Undisturbed)
- 211--Improved Pastures
- 520--Lakes
- 630--Wetland Forested Mixed
- 640--Vegetated Non-Forested Wetlands



PROJECT NO. 20163103.001A
 DRAWN: 4/20/2016
 DRAWN BY: NL
 CHECKED BY: EJM
 FILE NAME: 16-0420-HPS
 Bradford SUP-RecPlan.mxd

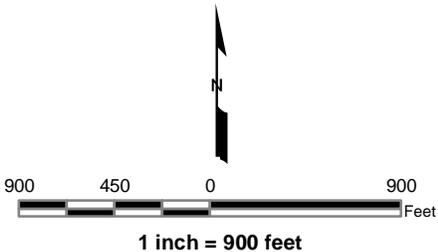
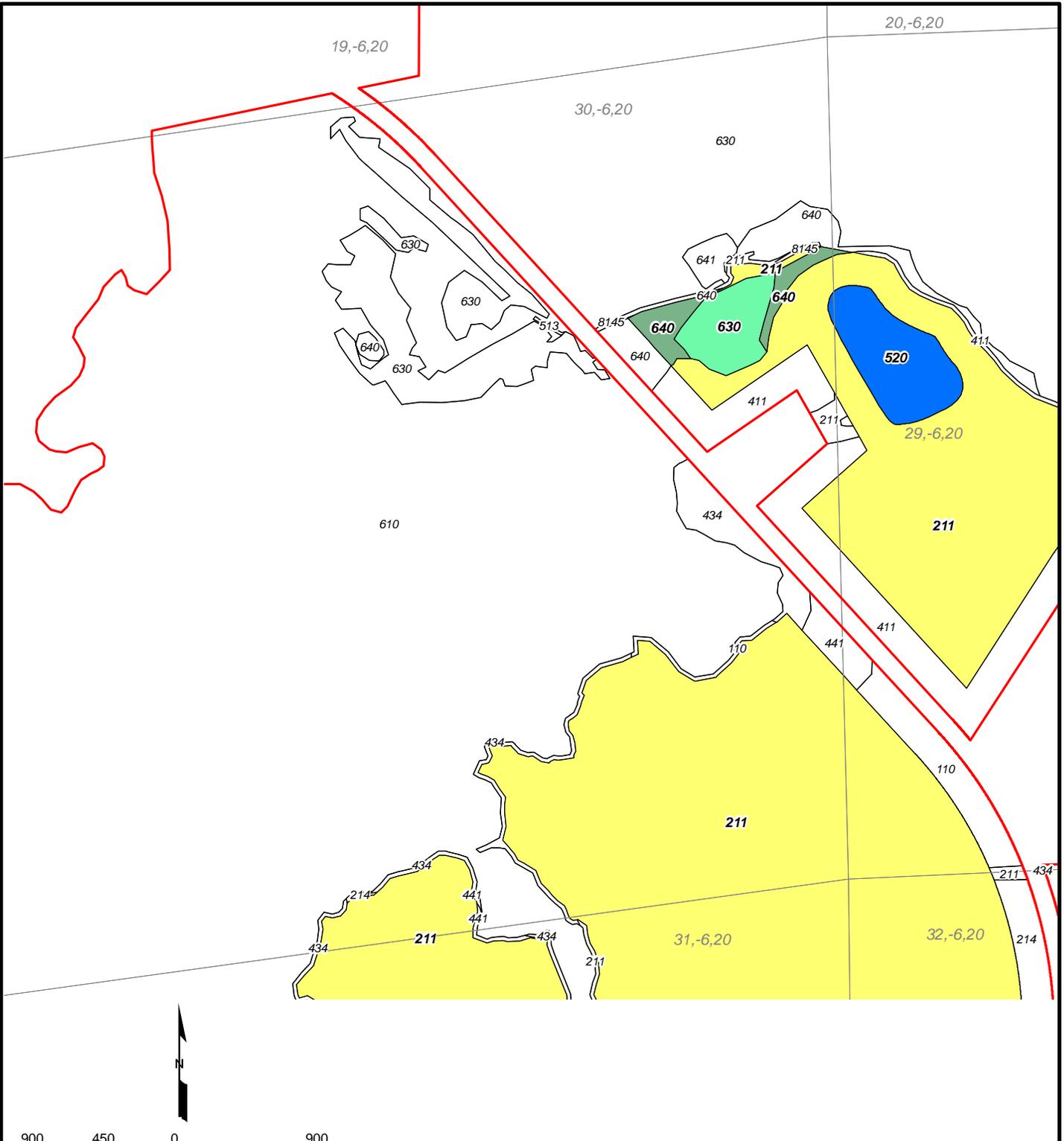
Conceptual Reclamation Plan
View 4

**HPS II Enterprises
Mining Master Plan
Bradford County, Florida**

FIGURE

15E

Document Path: \\mountain\mountain\dora-data\GIS\CAD\HPS Enterprises\HPS II Bradford Co Phosphate Mine\03-0000\County SUP\16-0420--HPS Bradford SUP-RecPlan.mxd



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend	
Project Boundary (5,352.62 Ac.±)	211--Improved Pastures
Section/Township/Range	520--Lakes
Land Use (Undisturbed)	630--Wetland Forested Mixed
Reclamation Land Use	640--Vegetated Non-Forested Wetlands



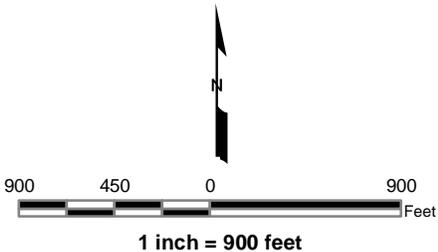
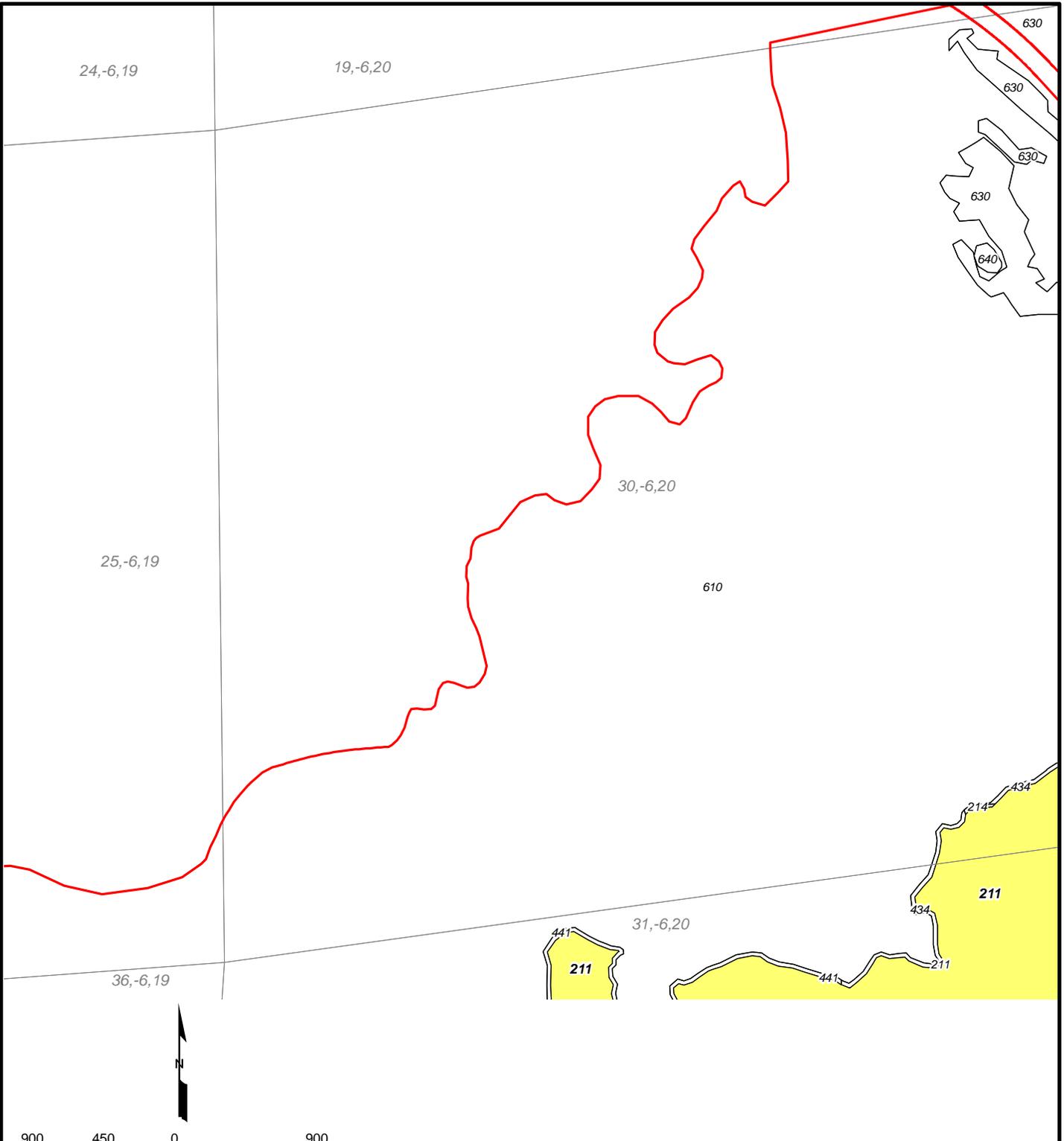
PROJECT NO.	20163103.001A
DRAWN:	4/20/2016
DRAWN BY:	NL
CHECKED BY:	EJM
FILE NAME:	16-0420--HPS Bradford SUP-RecPlan.mxd

Conceptual Reclamation Plan
View 5

**HPS II Enterprises
Mining Master Plan
Bradford County, Florida**

FIGURE
15F

Document Path: \\mountain\mountain\dora-data\GIS\CAD\HPS Enterprises Inc\20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000 County SUP\16-0420--HPS Bradford SUP-RecPlan.mxd



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend	
Project Boundary (5,352.62 Ac.±)	211--Improved Pastures
Section/Township/Range	
Land Use (Undisturbed)	
Reclamation Land Use	

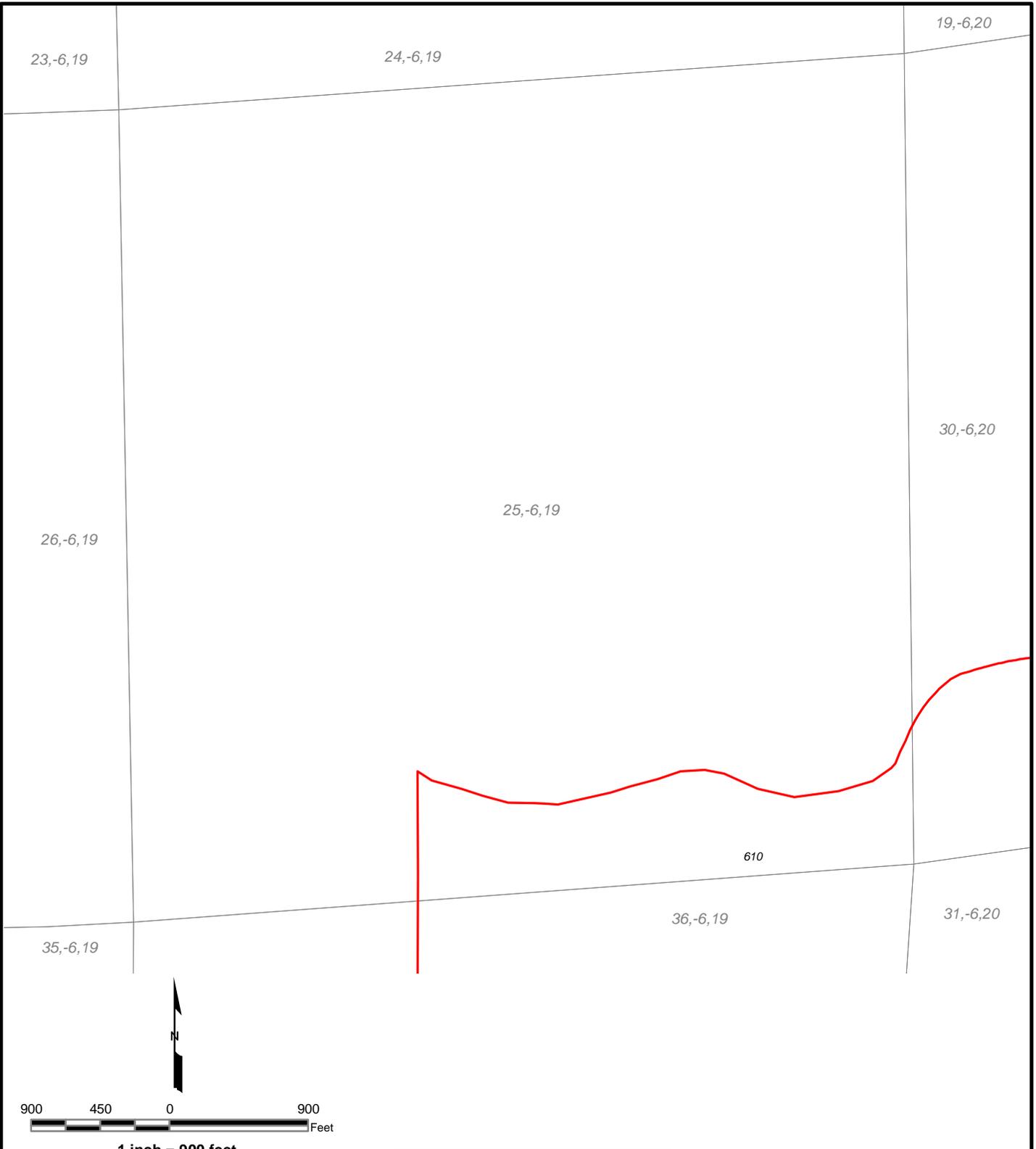
PROJECT NO.	20163103.001A
DRAWN:	4/20/2016
DRAWN BY:	NL
CHECKED BY:	EJM
FILE NAME:	16-0420--HPS Bradford SUP-RecPlan.mxd

Conceptual Reclamation Plan
View 6

**HPS II Enterprises
Mining Master Plan
Bradford County, Florida**

FIGURE
15G

Document Path: \\mountain\mountain\dora-data\GIS\CADD\HPS Enterprises\16-0420\County SUP\16-0420--HPS Bradford SUP-RecPlan.mxd



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend	
	Project Boundary (5,352.62 Ac.±)
	Section/Township/Range
	Land Use (Undisturbed)

KLEINFELDER
Bright People. Right Solutions.
www.kleinfelder.com

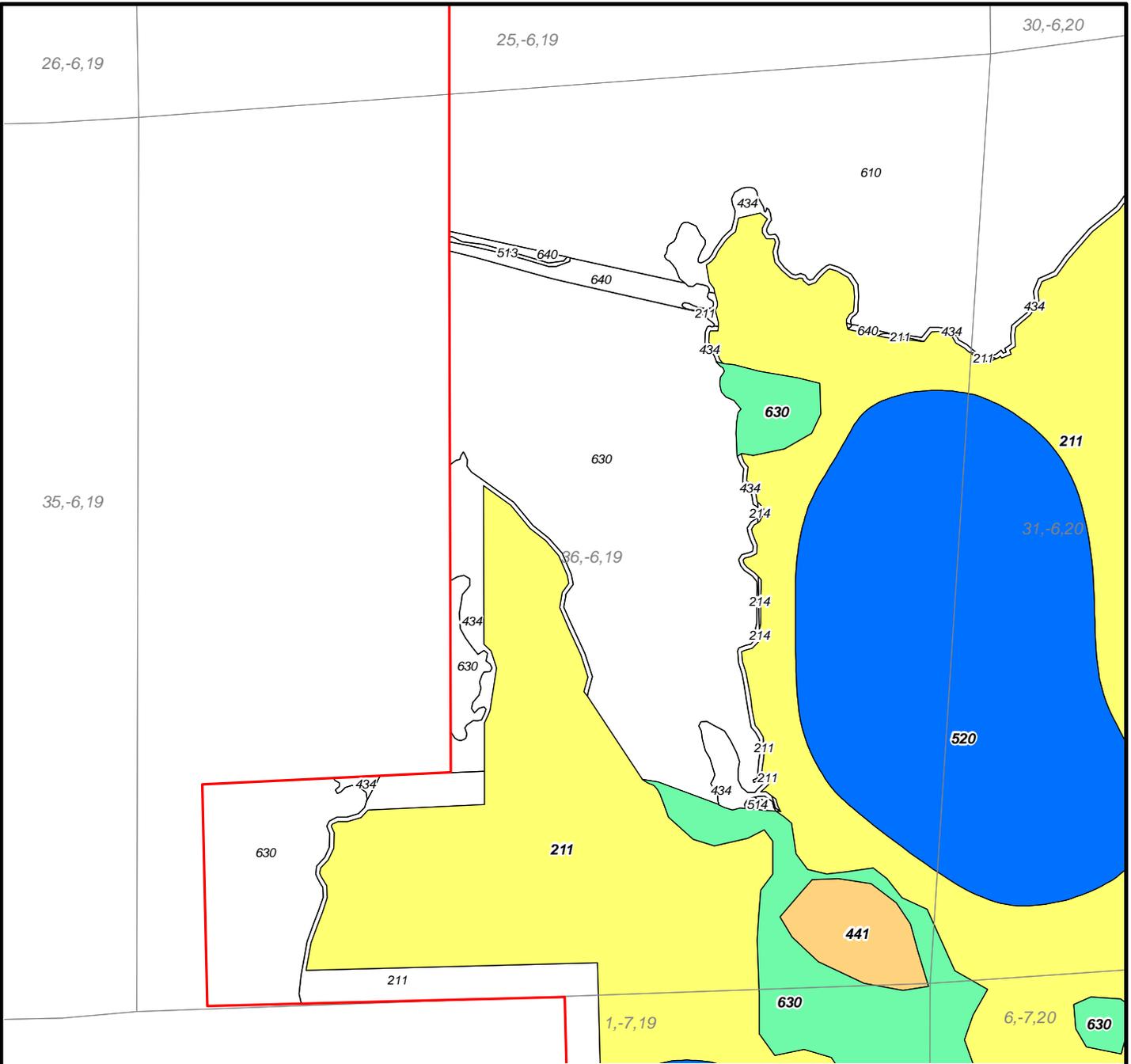
PROJECT NO.	20163103.001A
DRAWN:	4/20/2016
DRAWN BY:	NL
CHECKED BY:	EJM
FILE NAME:	16-0420--HPS Bradford SUP-RecPlan.mxd

Conceptual Reclamation Plan
View 7

**HPS II Enterprises
Mining Master Plan
Bradford County, Florida**

FIGURE
15H

Document Path: \\mountdora\MOUNTDORA-DATA\GIS\CAD\HPS Enterprises Inc\20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000 County SUP\16-0420--HPS Bradford SUP-RecPlan.mxd



900 450 0 900
Feet
1 inch = 900 feet

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend	
	Project Boundary (5,352.62 Ac.±)
	Section/Township/Range
	Land Use (Undisturbed)
	Reclamation Land Use
	211--Improved Pastures
	441--Coniferous Plantations
	520--Lakes
	630--Wetland Forested Mixed



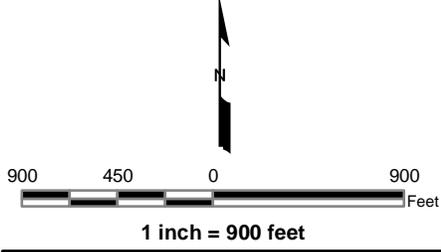
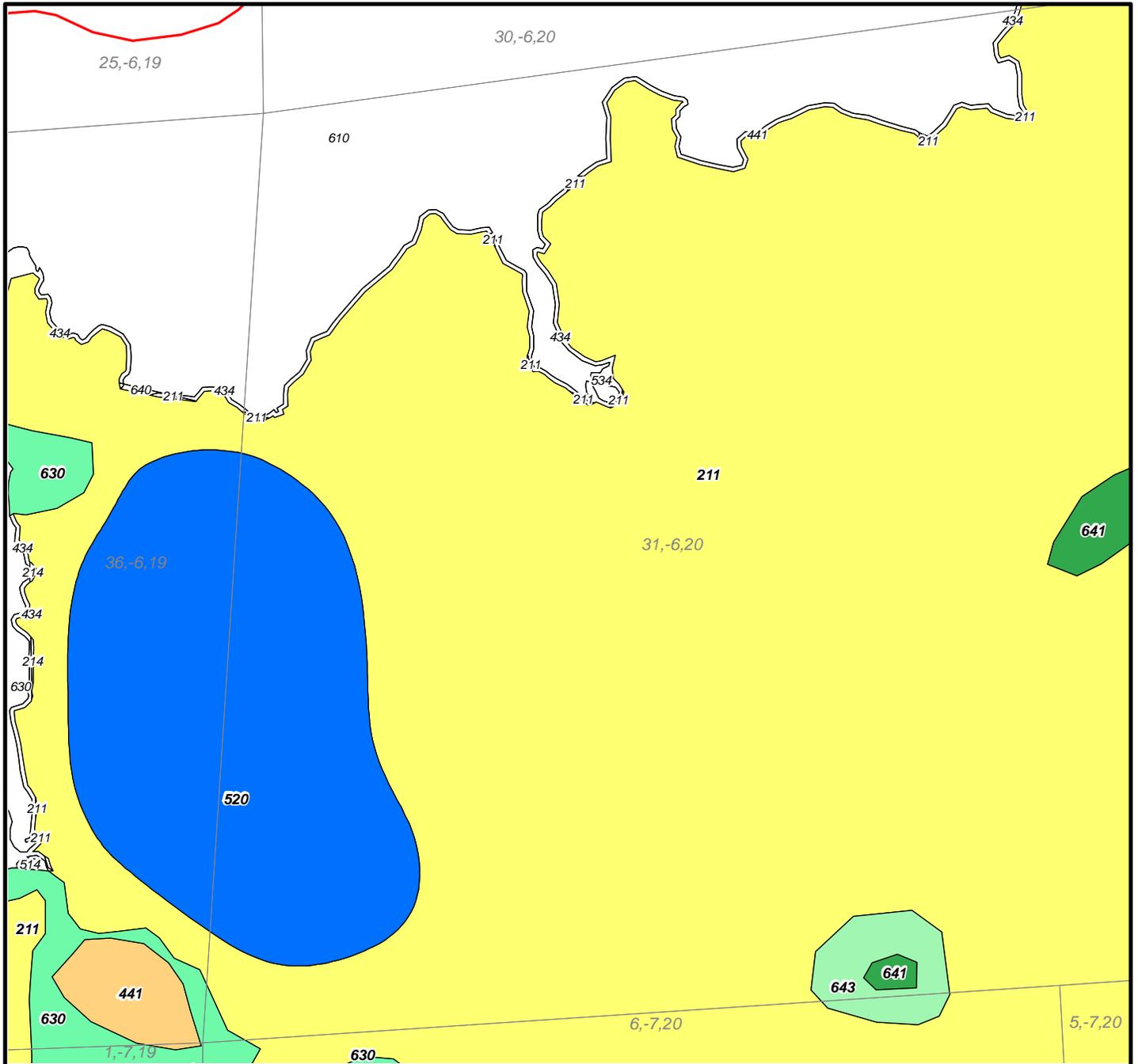
PROJECT NO. 20163103.001A
 DRAWN: 4/20/2016
 DRAWN BY: NL
 CHECKED BY: EJM
 FILE NAME: 16-0420--HPS
 Bradford SUP-RecPlan.mxd

Conceptual Reclamation Plan
View 8

**HPS II Enterprises
Mining Master Plan
Bradford County, Florida**

FIGURE
151

Document Path: \\mountdora\mountdora-data\GIS\CAD\HPS Enterprises\Incl\20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000 County SUP\16-0420-HPS Bradford SUP-RecPlan.mxd



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

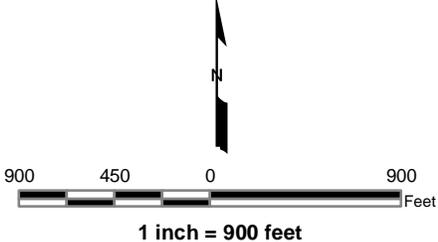
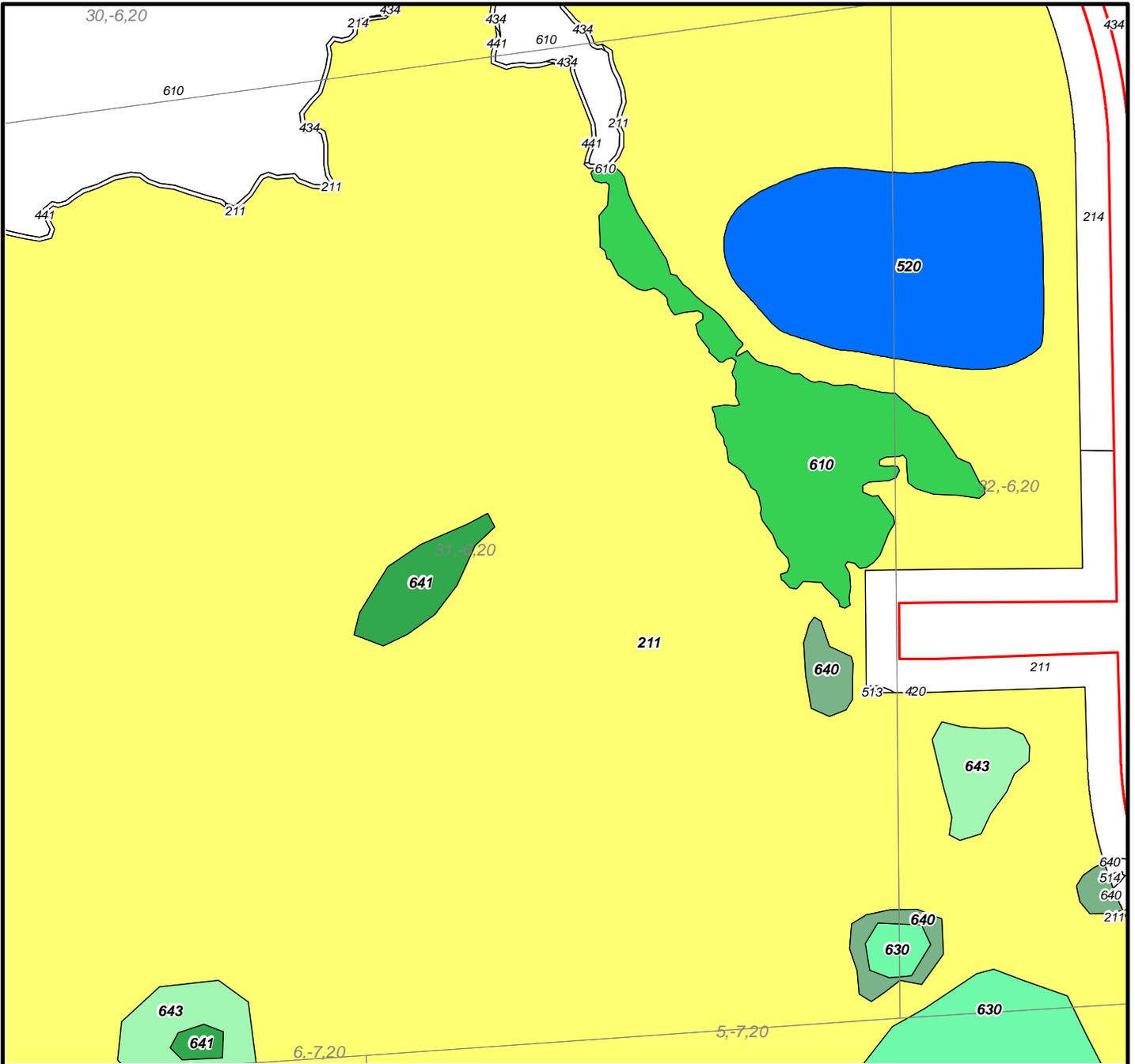
Legend	
	Project Boundary (5,352.62 Ac.±)
	Section/Township/Range
	Land Use (Undisturbed)
	Reclamation Land Use
	441--Coniferous Plantations
	520--Lakes
	630--Wetland Forested Mixed
	641--Freshwater Marshes
	643--Freshwater Marshes
	211--Improved Pastures

PROJECT NO.	20163103.001A
DRAWN:	4/20/2016
DRAWN BY:	NL
CHECKED BY:	EJM
FILE NAME:	16-0420--HPS Bradford SUP-RecPlan.mxd

Conceptual Reclamation Plan
View 9

**HPS II Enterprises
Mining Master Plan
Bradford County, Florida**

FIGURE
15J



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend	
 Project Boundary (5,352.62 Ac.±)	 610--Wetland Hardwood Forests
 Section/Township/Range	 630--Wetland Forested Mixed
 Land Use (Undisturbed)	 640--Vegetated Non-Forested Wetlands
 211--Improved Pastures	 641--Freshwater Marshes
 520--Lakes	 643--Freshwater Marshes



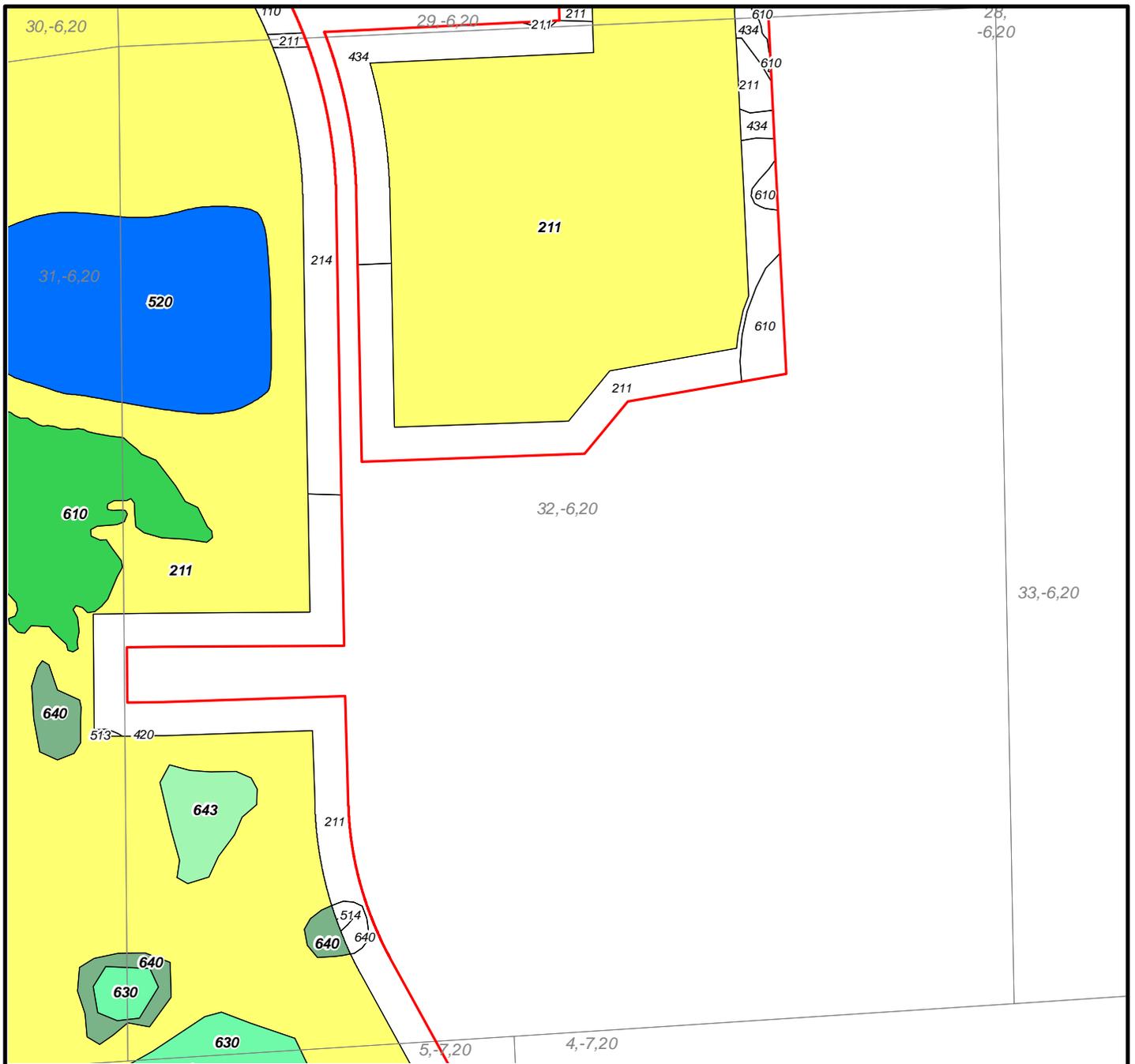
PROJECT NO.	20163103.001A
DRAWN:	4/20/2016
DRAWN BY:	NL
CHECKED BY:	EJM
FILE NAME:	16-0420--HPS Bradford SUP-RecPlan.mxd

Conceptual Reclamation Plan
View 10

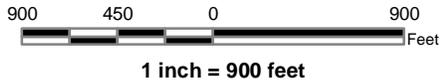
**HPS II Enterprises
Mining Master Plan
Bradford County, Florida**

FIGURE
15K

Document Path: \\mountdora\MOUNTDORA-DATA\GIS\CADD\HPS Enterprises\Incl20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000 County SUP\16-0420--HPS Bradford SUP-RecPlan.mxd



Legend	
 Project Boundary (5,352.62 Ac.±)	 520--Lakes
 Section/Township/Range	 610--Wetland Hardwood Forests
 Land Use (Undisturbed)	 630--Wetland Forested Mixed
 Reclamation Land Use	 640--Vegetated Non-Forested Wetlands
 211--Improved Pastures	 643--Freshwater Marshes



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.



PROJECT NO. 20163103.001A
 DRAWN: 4/20/2016
 DRAWN BY: NL
 CHECKED BY: EJM
 FILE NAME: 16-0420--HPS
 Bradford SUP-RecPlan.mxd

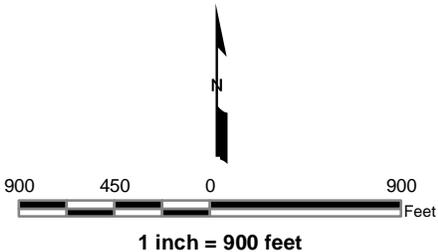
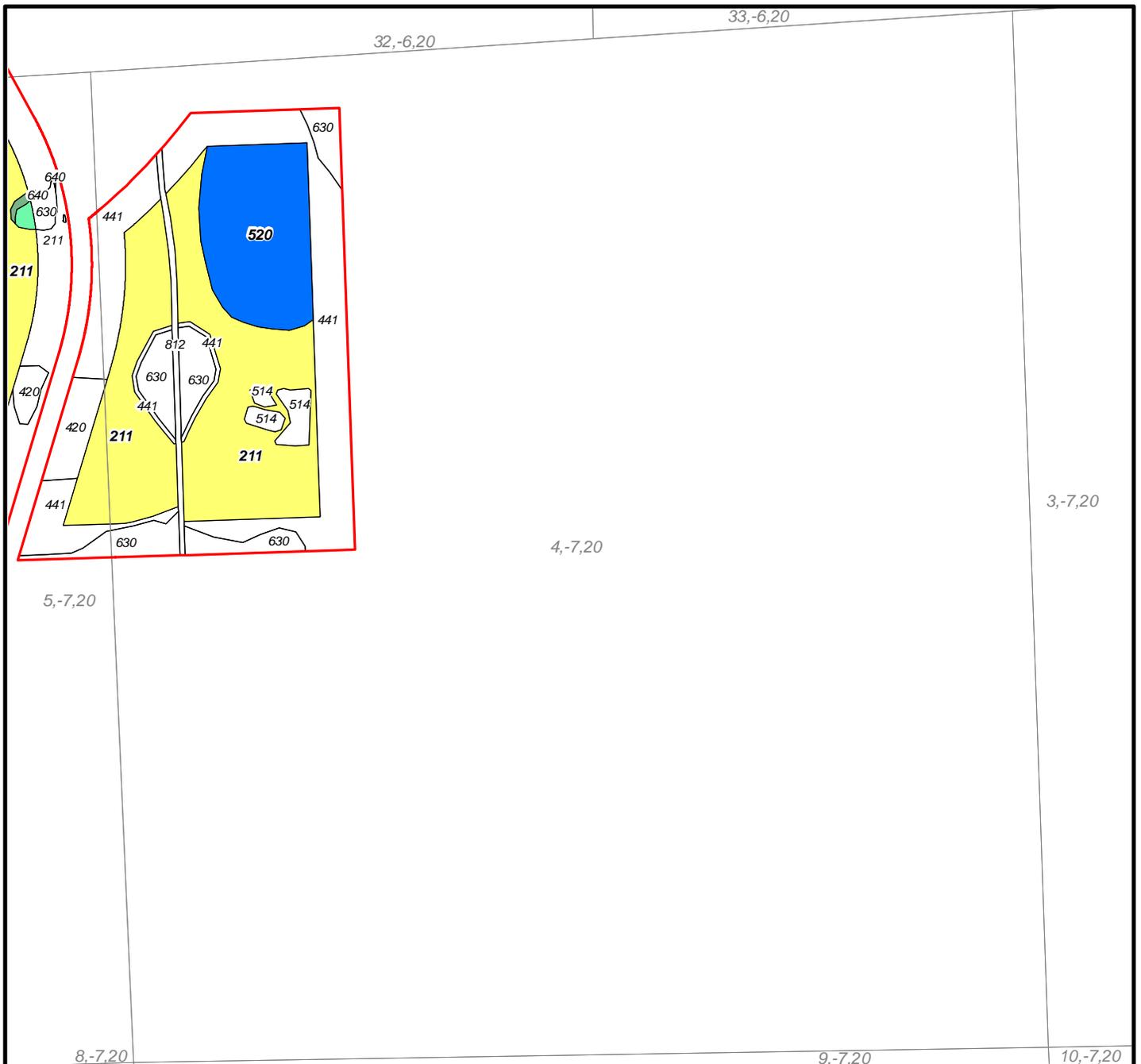
Conceptual Reclamation Plan
 View 11

HPS II Enterprises
 Mining Master Plan
 Bradford County, Florida

FIGURE

15L

Document Path: \\mountdora\mountdora-data\GIS\CAD\HPS Enterprises\Incl20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000 County SUP\16-0420--HPS Bradford SUP-RecPlan.mxd



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend	
Project Boundary (5,352.62 Ac.±)	211--Improved Pastures
Section/Township/Range	520--Lakes
Land Use (Undisturbed)	630--Wetland Forested Mixed
Reclamation Land Use	640--Vegetated Non-Forested Wetlands

KLEINFELDER
Bright People. Right Solutions.
www.kleinfelder.com

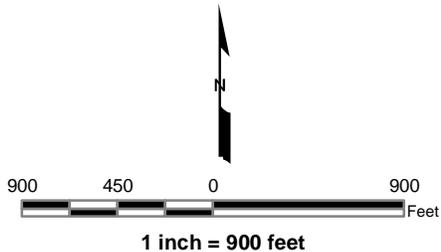
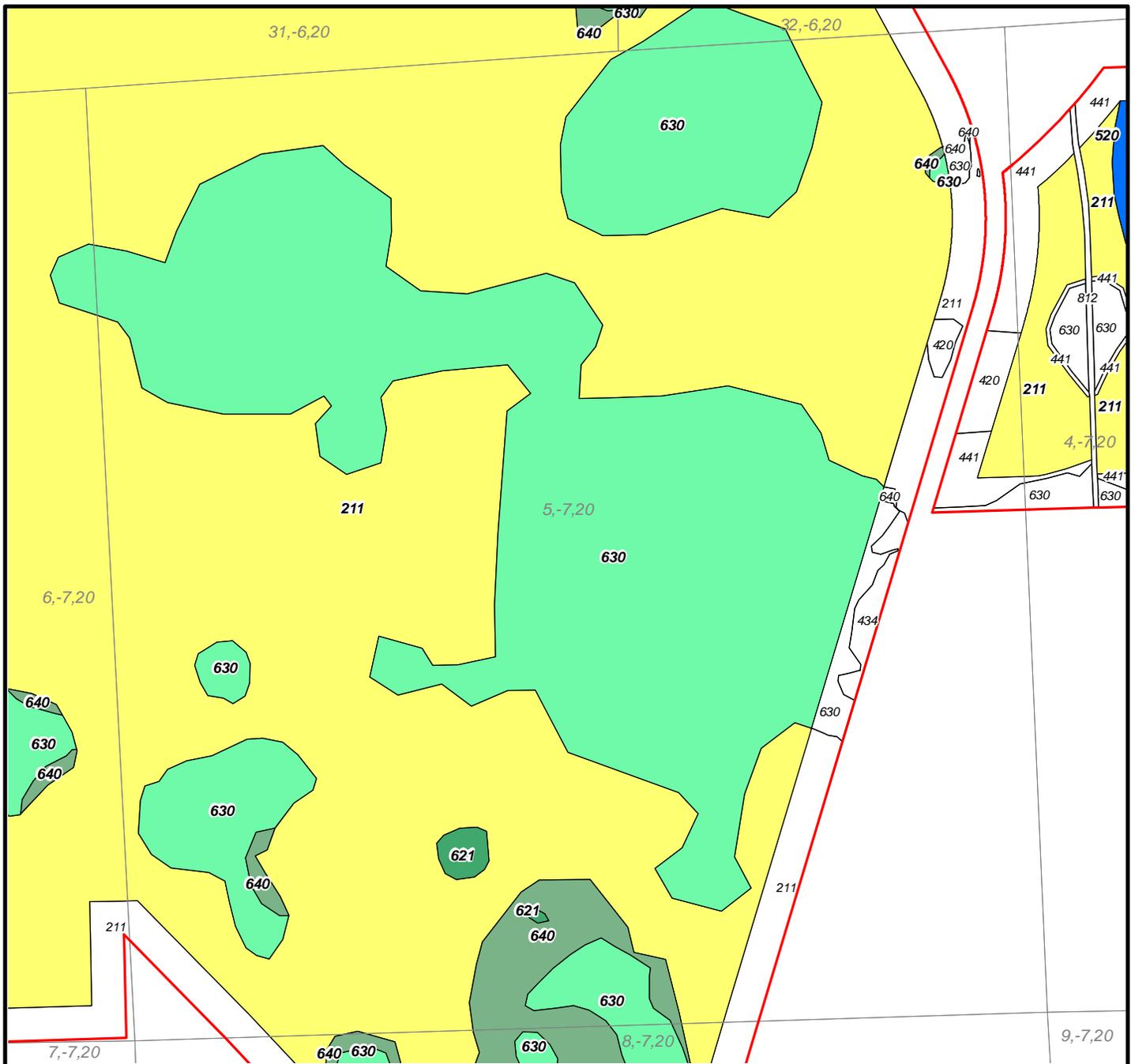
PROJECT NO.	20163103.001A
DRAWN:	4/20/2016
DRAWN BY:	NL
CHECKED BY:	EJM
FILE NAME:	16-0420--HPS Bradford SUP-RecPlan.mxd

Conceptual Reclamation Plan
View 12

**HPS II Enterprises
Mining Master Plan
Bradford County, Florida**

FIGURE
15M

Document Path: \\mountain\MOUNTDORA-DATA\GIS\CADD\HPS Enterprises\Incl20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000 County SUP\16-0420--HPS Bradford SUP-RecPlan.mxd



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend	
 Project Boundary (5,352.62 Ac.±)	 520--Lakes
 Section/Township/Range	 621--Cypress
 Land Use (Undisturbed)	 630--Wetland Forested Mixed
 Reclamation Land Use	 640--Vegetated Non-Forested Wetlands
 211--Improved Pastures	

KLEINFELDER
Bright People. Right Solutions.
www.kleinfelder.com

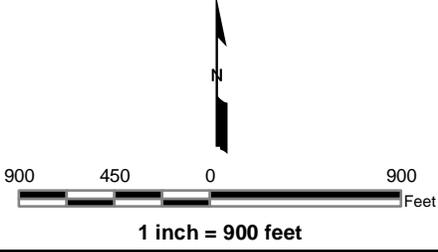
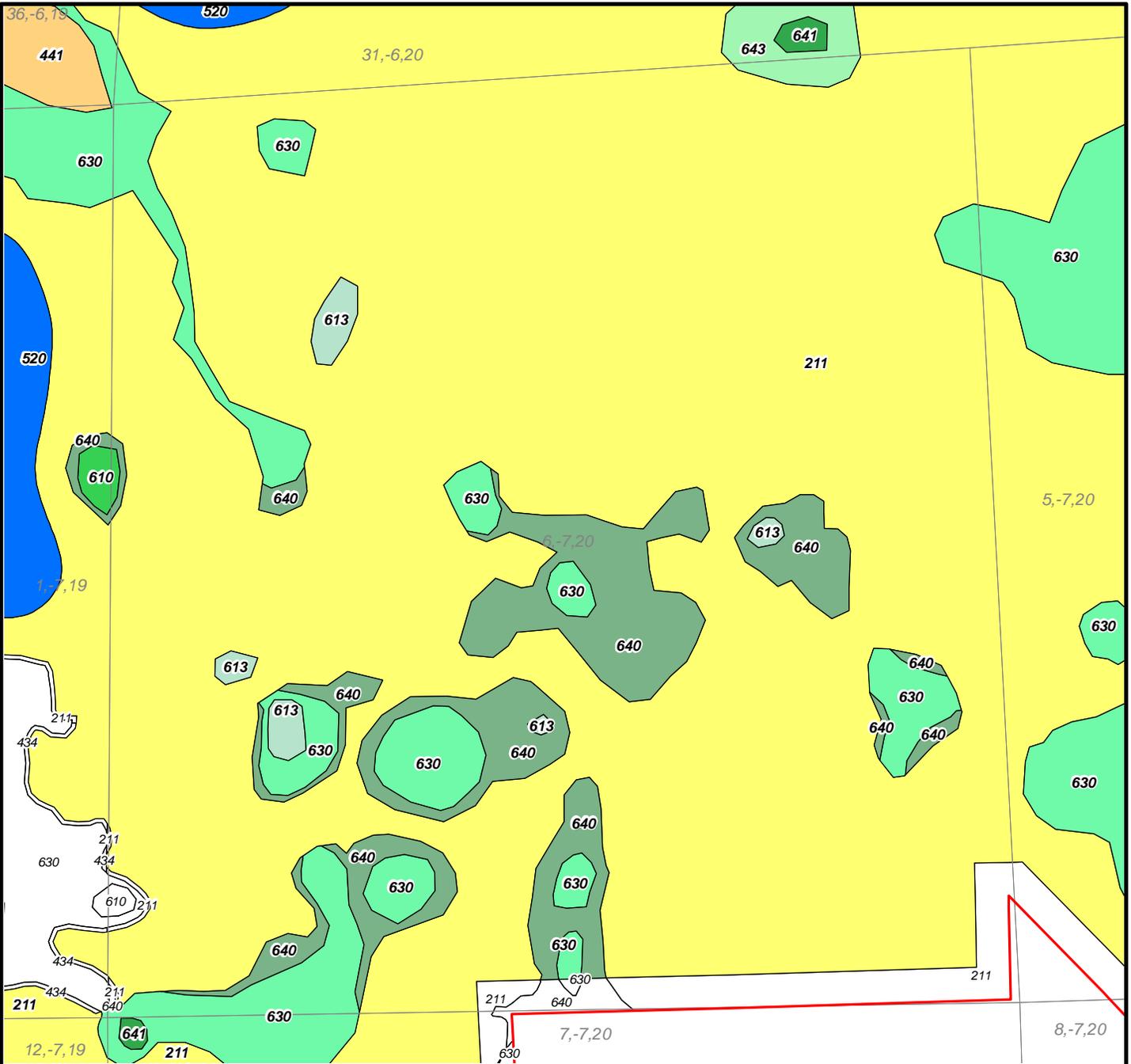
PROJECT NO.	20163103.001A
DRAWN:	4/20/2016
DRAWN BY:	NL
CHECKED BY:	EJM
FILE NAME:	16-0420--HPS Bradford SUP-RecPlan.mxd

Conceptual Reclamation Plan
View 13

**HPS II Enterprises
Mining Master Plan
Bradford County, Florida**

FIGURE
15N

Document Path: \\mountdora\MOUNTDORA-DATA\GIS\CAD\HPS Enterprises\16-0420\001A_HPS Enterprises\HPS II Bradford Co Phosphate Mine\03-0000\County SUP\16-0420--HPS Bradford SUP-RecPlan.mxd



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

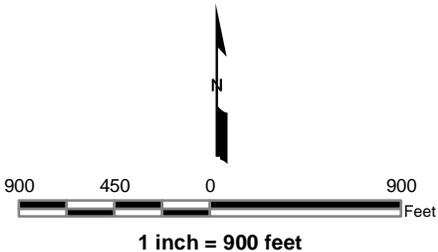
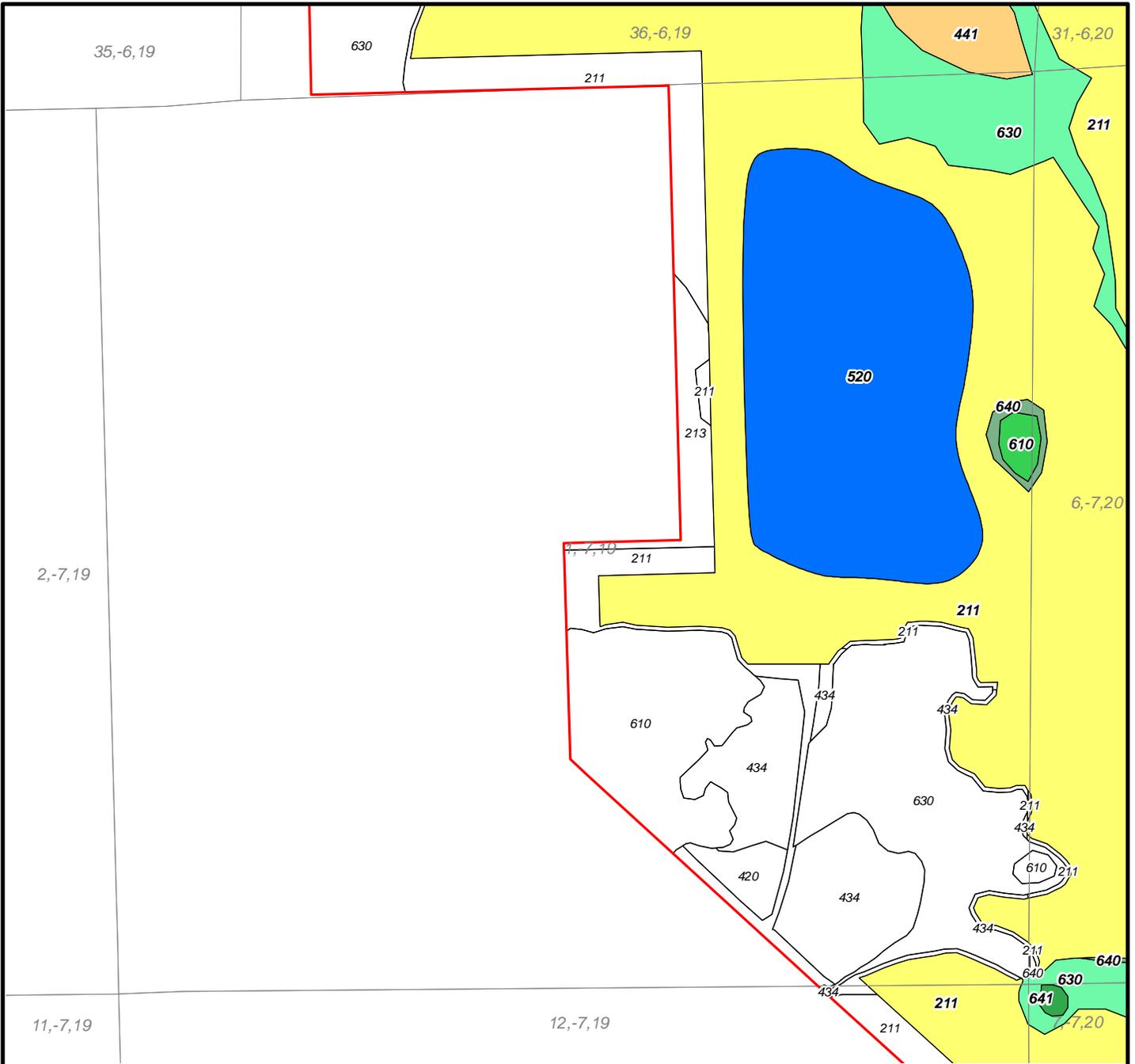
Legend	
	Project Boundary (5,352.62 Ac.±)
	Section/Township/Range
	Land Use (Undisturbed)
	211--Improved Pastures
	441--Coniferous Plantations
	520--Lakes
	610--Wetland Hardwood Forests
	613--Gum Swamps
	630--Wetland Forested Mixed
	640--Vegetated Non-Forested Wetlands
	641--Freshwater Marshes
	643--Freshwater Marshes



PROJECT NO. 20163103.001A
 DRAWN: 4/20/2016
 DRAWN BY: NL
 CHECKED BY: EJM
 FILE NAME: 16-0420--HPS
 Bradford SUP-RecPlan.mxd

Conceptual Reclamation Plan
 View 14
 HPS II Enterprises
 Mining Master Plan
 Bradford County, Florida

FIGURE
 150



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend	
	Project Boundary (5,352.62 Ac.±)
	Section/Township/Range
	Land Use (Undisturbed)
	211--Improved Pastures
	441--Coniferous Plantations
	520--Lakes
	610--Wetland Hardwood Forests
	630--Wetland Forested Mixed
	640--Vegetated Non-Forested Wetlands
	641--Freshwater Marshes



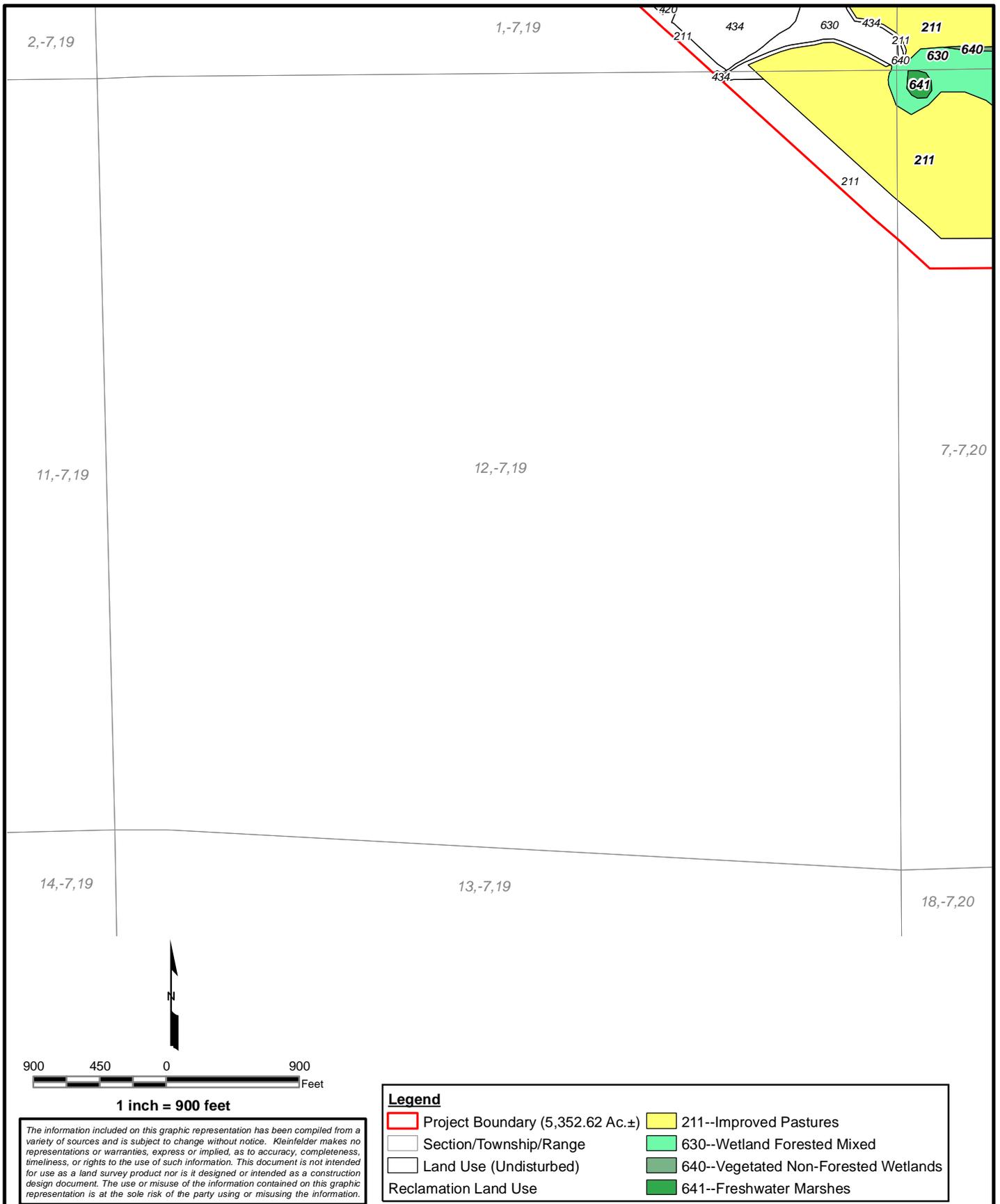
PROJECT NO.	20163103.001A
DRAWN:	4/20/2016
DRAWN BY:	NL
CHECKED BY:	EJM
FILE NAME:	16-0420--HPS Bradford SUP-RecPlan.mxd

Conceptual Reclamation Plan
View 15

**HPS II Enterprises
Mining Master Plan
Bradford County, Florida**

FIGURE
15P

Document Path: \\mountdora\mountdora-data\GIS\CAD\HPS Enterprises\Incl\20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000\County SUP\16-0420--HPS Bradford SUP-RecPlan.mxd

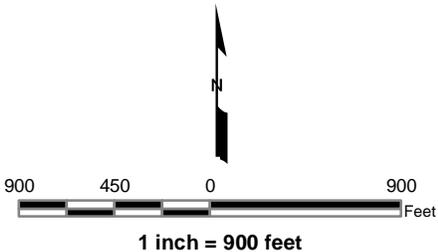
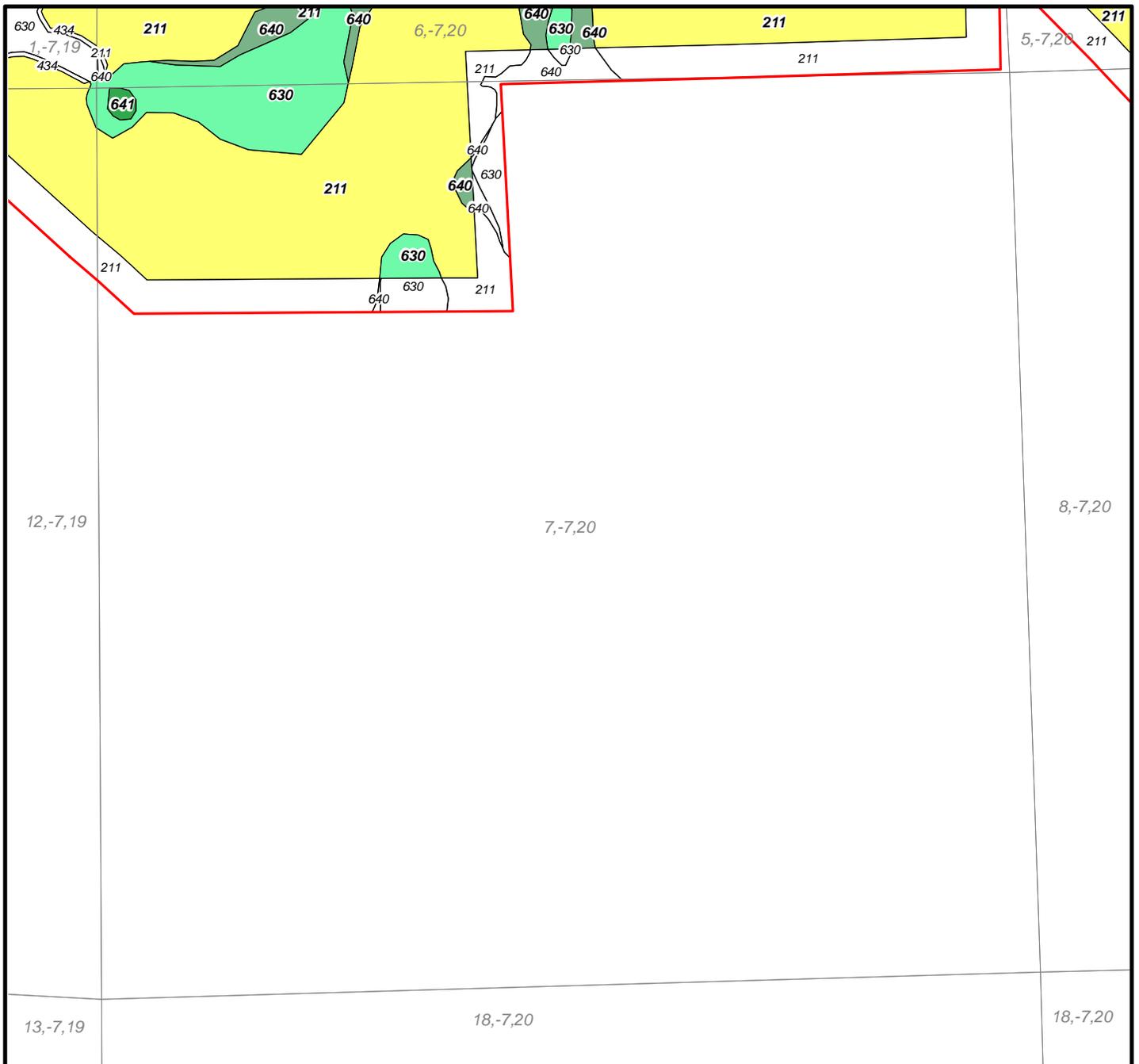


The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend	
	Project Boundary (5,352.62 Ac.±)
	211--Improved Pastures
	630--Wetland Forested Mixed
	640--Vegetated Non-Forested Wetlands
	641--Freshwater Marshes
	Section/Township/Range
	Land Use (Undisturbed)
	Reclamation Land Use

<p>KLEINFELDER Bright People. Right Solutions. www.kleinfelder.com</p>	PROJECT NO. 20163103.001A	Conceptual Reclamation Plan View 16	FIGURE 15Q
	DRAWN: 4/20/2016		
	DRAWN BY: NL	HPS II Enterprises Mining Master Plan Bradford County, Florida	
	CHECKED BY: EJM		
FILE NAME: 16-0420--HPS Bradford SUP-RecPlan.mxd			

Document Path: \\mountain\MOUNTDORA-DATA\GIS\CAD\HPS Enterprises Inc\20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000 County SUP\16-0420--HPS Bradford SUP-RecPlan.mxd

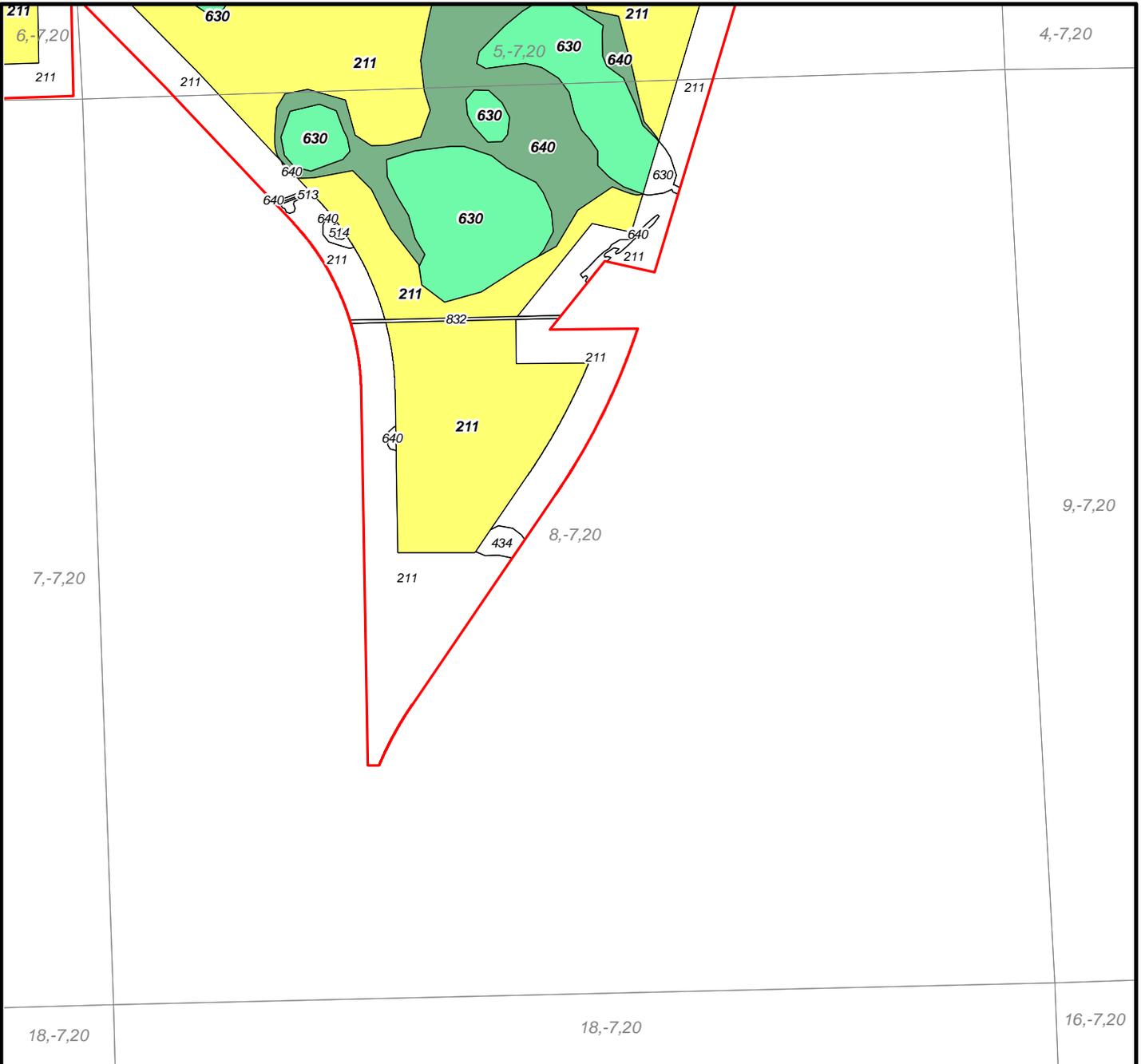


The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend	
	Project Boundary (5,352.62 Ac.±)
	211--Improved Pastures
	630--Wetland Forested Mixed
	640--Vegetated Non-Forested Wetlands
	641--Freshwater Marshes
	Section/Township/Range
	Land Use (Undisturbed)
	Reclamation Land Use

	PROJECT NO. 20163103.001A	Conceptual Reclamation Plan View 17	FIGURE 15R
	DRAWN: 4/20/2016		
	DRAWN BY: NL	HPS II Enterprises Mining Master Plan Bradford County, Florida	
	CHECKED BY: EJM		
FILE NAME: 16-0420--HPS Bradford SUP-RecPlan.mxd			

Document Path: V:\mountain\MOUNTDORA-DATA\GIS\CAD\HPS Enterprises Inc\20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000 County SUP\16-0420--HPS Bradford SUP-RecPlan.mxd



1 inch = 900 feet

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend	
Project Boundary (5,352.62 Ac.±)	211--Improved Pastures
Section/Township/Range	630--Wetland Forested Mixed
Land Use (Undisturbed)	640--Vegetated Non-Forested Wetlands
Reclamation Land Use	



PROJECT NO. 20163103.001A
 DRAWN: 4/20/2016
 DRAWN BY: NL
 CHECKED BY: EJM
 FILE NAME: 16-0420--HPS
 Bradford SUP-RecPlan.mxd

Conceptual Reclamation Plan
 View 18
 HPS II Enterprises
 Mining Master Plan
 Bradford County, Florida

FIGURE
 15S

TABLES

**TABLE 1: PROTECTED FAUNA WITH POTENTIAL TO OCCUR IN THE MINE
HPSII BRADFORD COUNTY MINE
APRIL 2016**

Scientific Name	Common Name	FWS Status ¹	FWC Status ²	Likelihood of Occurrence ³
MAMMALS				
<i>Podomys floridanus</i>	Florida Mouse	-	SSC	Potential
<i>Sciurus niger shermani</i>	Sherman's Fox Squirrel	-	SSC	Observed
<i>Ursus americanus floridanus</i>	Florida Black Bear	-	- ⁴	Likely
BIRDS				
<i>Aramus guarana</i>	Limpkin	-	SSC	Likely
<i>Athene cunicularia floridana</i>	Florida Burrowing Owl	-	SSC	Potential
<i>Egretta caerulea</i>	Little blue heron	-	SSC	Likely
<i>Egretta tricolor</i>	Tricolored heron	-	SSC	Likely
<i>Egretta thula</i>	Snowy egret	-	SSC	Likely
<i>Eudocimus albus</i>	White ibis	-	SSC	Likely
<i>Falco sparverius paulus</i>	Southeastern American kestrel	-	ST	Likely
<i>Grus canadensis pratensis</i>	Florida Sandhill Crane	-	ST	Likely
<i>Haliaeetus leucocephalus</i>	Bald eagle	- ⁵	- ⁵	Observed
<i>Mycteria americana</i>	Wood stork	T	FT	Likely
<i>Picoides borealis</i>	Red-cockaded Woodpecker	E	FE	Potential
REPTILES				
<i>Alligator mississippiensis</i>	American alligator	T(S/A)	FT(S/A)	Observed
<i>Drymarchon couperi</i>	Eastern indigo snake	T	FT	Likely
<i>Gopherus polyphemus</i>	Gopher Tortoise	Candidate	ST	Observed
<i>Lampropeltis extenuata</i>	Short-tailed Snake	-	ST	Potential
<i>Macrochelys temminckii</i>	Alligator snapping turtle	-	SCC	Likely
<i>Pituophis melanoleucus mugitus</i>	Florida Pine Snake	-	SSC	Likely
<i>Pseudemys concinna suwanniensis</i>	Suwannee Cooter	-	SSC	Likely
AMPHIBIANS				
<i>Lithobates capito</i>	Gopher Frog	-	SCC	Likely
<i>Ambystoma cingulatum</i>	Flatwoods salamander	T	FT	Likely
<i>Notophthalmus perstriatus</i>	Striped Newt	Candidate	-	Potential

**TABLE 1: PROTECTED FAUNA WITH POTENTIAL TO OCCUR IN THE MINE
HPSII BRADFORD COUNTY MINE
APRIL 2016**

Scientific Name	Common Name	FWS Status ¹	FWC Status ²	Likelihood of Occurrence ³
MOLLUSKS				
<i>Medionidus walkeri</i>	Suwannee moccasinshell	Candidate	-	Likely
<i>Pleurobema pyriforme</i>	Oval pigtoe	E	FE	Likely

¹FWS - U.S. Fish and Wildlife Service - Endangered and Threatened Wildlife (50 eCFR 17.11) [Ranking: E - Endangered, T – Threatened, T(S/A) – Threatened by Similarity of Appearance (to the American crocodile)].

²FWC – Florida Fish and Wildlife Conservation Commission; Florida's Endangered Species, Threatened Species, and Species of Special Concern (F.A.C. Ch. 68A-27; updated January 2013) [Ranking: FE – Federally-designated Endangered, FT – Federally-designated Threatened, FT(S/A) – Federally-designated Threatened because of similarity of appearance, FXN – Federal non-essential experimental population, ST – State-designated Threatened, SSC – State Species of Special Concern].

³Likelihood of occurrence based on FNAI database, habitats onsite, and known range and habitat associations of species.

⁴Protected under the Florida Black Bear Conservation Rule (F.A.C. Ch.68A-4.009).

⁵The bald eagle is protected by F.A.C. 68A-16.002, the Migratory Bird Treaty Act, and the Bald and Golden Eagle Protection Act.

**TABLE 2: PROTECTED FLORA WITH POTENTIAL TO OCCUR IN THE MINE
HPSII BRADFORD COUNTY MINE
APRIL 2016**

Scientific Name	Common Name	FWS Status ¹	FDACS Status ²	Occurrence ³	Habitat ⁴	Flowering Phenology ⁵	FLUCFCS ⁶
<i>Asclepias viridula</i>	Green Milkweed	-	T	Potential	wet flatwoods, wet prairies, seepage slopes, pitcherplant bogs	April-July	441, 630, 643
<i>Brickellia cordifolia</i>	Flyr's Brickell-bush	-	E	Potential	upland woodlands	late August-late October	420, 434
<i>Calopogon multiflorus</i>	Many-flowered Grass-pink	-	T	Potential	dry to moist flatwoods with longleaf pine, wiregrass, and saw palmetto	March-July	441
<i>Calydorea caelestina</i>	Bartram's Ixia	-	E	Potential	wet to mesic flatwoods, wet prairies	mid April-mid June	441, 643
<i>Ctenium floridanum</i>	Florida Toothache Grass	-	E	Potential	pinelands	Spring-Fall	441, 434
<i>Hartwrightia floridana</i>	Hartwrightia	-	T	Potential	wet flatwoods, bogs, pinewoods, seepage slopes, wet prairies	late Summer-Fall	434, 441, 630, 643
<i>Litsea aestivalis</i>	Pondspice	-	E	Potential	pond margins, bayheads, cypress swamps, edges of baygalls	late Winter-early Spring	514, 524, 621, 630
<i>Matelea floridana</i>	Florida Spiny-pod	-	E	Potential	bluffs, pine-oak hickory woods	Spring	420
<i>Najas filifolia</i>	Slender Naiad	-	T	Potential	fresh water ponds	Spring-Fall	514, 524
<i>Orbexilium virgatum</i>	Pineland Scurfpea/ Pineland Leatherroot	-	E	Potential	flatwoods, savannas	Spring-Summer	211, 441
<i>Pteroglossaspis cristata</i>	Giant Orchid	-	T	Likely	sand pine scrub, sandhills, pine rocklands, pasture	July-November	441, 211
<i>Salix floridana</i>	Florida Willow	-	E	Potential	wet hammocks, bottomland forest, swamps	March-April	610, 613, 621, 630, 640
<i>Schoenolirion croceum</i>	Yellow Sunnysbell	-	E	Potential	wet savannas, bogs, seepage slopes	Spring	630, 643
<i>Sideroxylon alachuense</i>	Silver Buckthorn	-	E	Potential	hardwood hammocks	Summer	420
<i>Verbesina heterophylla</i>	Diverseleaf Crownbeard	-	E	Potential	flatwoods, dry woods	June-August	420, 434, 441

¹FWS - U.S. Fish and Wildlife Service Endangered and Threatened Plants (50 eCFR 17.12) [Ranking: E - Endangered, T - Threatened].

²FDACS - Florida Department of Agriculture and Consumer Services Regulated Plant Index (Ch. 5B-40.0055 F.A.C.) [Ranking: E - Endangered, T - Threatened, CE - Commercially Exploited].

³Likelihood of occurrence based on FNAI database, habitats onsite, and known range and habitat associations of species.

⁴Habitat based on description in Weaver and Anderson 2010 and FNAI 2000.

⁵Flowering phenology based on Wunderlin 2010 and FNAI 2000.

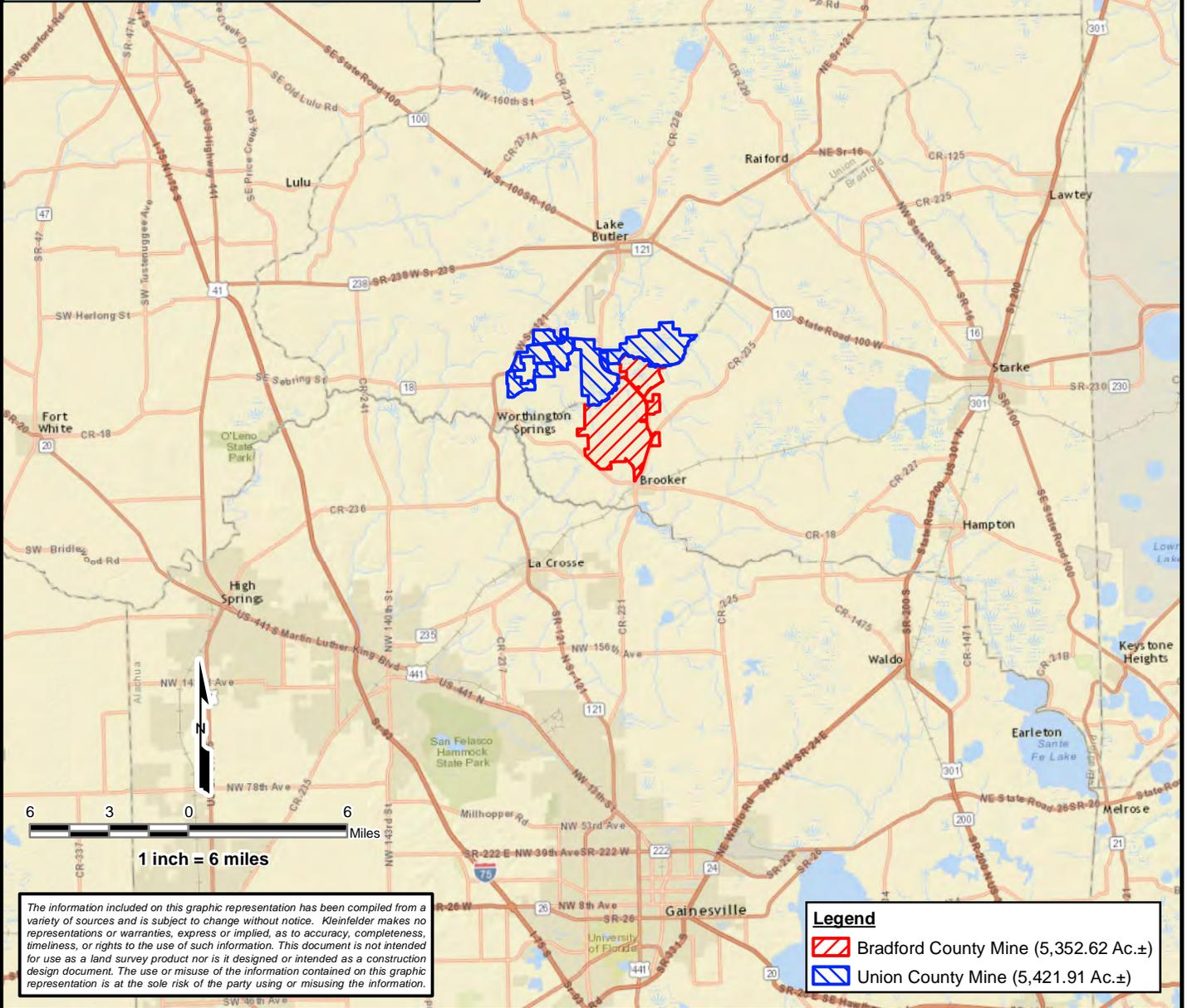
⁶FLUCFCS - Florida Land Use, Cover and Forms Classification System - FDOT (1999).

EXHIBITS



Sections 13-16, 21-25, 27, 28 & 36, Township 6 South, Range 19 East
 Sections 15-21 & 29-32, Township 6 South, Range 20 East
 Sections 1 & 12, Township 7 South, Range 19 East
 Sections 4-8, Township 7 South, Range 20 East

Source: World Street Map was obtained from ESRI Basemap.



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Legend
 Bradford County Mine (5,352.62 Ac.±)
 Union County Mine (5,421.91 Ac.±)

Document Path: V:\mountain\MOUNTDORA-DATA\GIS\CAD\HPS Enterprises\HPS II Bradford Co Phosphate Mine\03-0000 County SUP\16-0421-HPS Bradford SUP-UnionCoMine.mxd



PROJECT NO.	20163103.001A
DRAWN:	4/21/2016
DRAWN BY:	NL
CHECKED BY:	EJM
FILE NAME:	16-0421-HPS Bradford SUP-UnionCoMine.mxd

Union County Mine Map

**HPS II Enterprises
Mining Master Plan
Bradford County, Florida**

EXHIBIT

A

**EXHIBIT B:
PROJECT PARCEL ID#S AND LEGAL
DESCRIPTIONS**

PROJECT PARCEL ID #'S AND LEGAL DESCRIPTIONS

Hazen Family Partnership, Ltd. (1,850.73 ac.)

- 00012-0-00100: 36 6S 19 SE1/4 OF SW1/4 & THE SW1/4 OF SE1/4
- 00014-0-00000: 1 7S 19 E1/2 OF NE1/4 & E1/2 OF W1/2 OF NE1/4 & SE1/4 N & E OF RD
- 00046-0-00000: 12 7S 19 NE1/4 OF NE1/4 N & E OF ST RD 18 OR 129-532-537
- 00235-0-00000: NE1/4 EX E 24 A EX R/W
- 00236-0-00000: 05 7S 20 N1/2 OF NW1/4
- 00237-0-00000: 5 7S 20 S3/4 OF W1/2 & THAT PORTION OF SE1/4 N & W OF ST RD R/W
- 00239-0-00000: 6 7S 20 E3/4 OF SECTION
- 00239-0-00100: 6 7S 20 W1/4 OF SECTION
- 00241-0-00000: 7 7S 20 N1/2 OF LOT 5 & W1/2 OF N1/2 OF LOT 4 & N1/2 OF LOT 6
- 00250-0-00000: 8 7S 20 NE1/4 LYING W OF CR-235 EX: CLAY ELECTRIC SUBSTATION
DESC AS OR45-485. COM SW COR

Hazen Family Partnership No. 2, Ltd. (2,035.04 ac.)

- 00001-0-00000: 25 6S 19 THAT PORT OF THE FOLL LYING WITHIN THIS SECTION.
COM INT W R/W CR-231 & S BNDY
- 00011-0-00000: 36 6S 19 THAT PORT OF THE FOLL LYING WITHIN THIS SECTION.
COM INT W R/W CR-231 & S BNDY
- 00195-0-00000: 30 6S 20 LOTS 7, 8 & N1/2 OF LOTS 9, 11
- 00196-0-00000: 30 6S 20 THAT PORT OF THE FOLL LYING WITHIN THIS SECTION.
COM INT W R/W CR-231 & S BNDY
- 00197-0-00000: 30 6S 20 LOT 16
- 00198-0-00000: 31 6S 20 THAT PORT OF THE FOLL LYING WITHIN THIS SECTION.
COM INT W R/W CR-231 & S BNDY
- 00202-0-00300: 32 6S 20 THAT PORT OF THE FOLL LYING WITHIN THIS SECTION.
COM INT W R/W CR-231 & S BNDY

Triple D Cattle, LLC (186.0 ac.)

00192-0-00000: 29 6S 20 SW1/4 OF SE1/4

00202-0-00400: 32 6S 20 COM SW COR OF NW1/4 OF SE1/4. N88*59'50"E 684.43' TO
POB. N01*36'54"W 1, THENCE

Jack E. and Clara T. Hazen (194.92 ac.)

00012-0-00000: 36 6S 19 SE1/4 OF SE1/4 EX: THAT PORT LYING E OF FENCE & N
OF FOLL DESC LINE: COM SE

00198-0-00100: 31 6S 20 S1/4 OF LOTS 7-8 & THAT PORT OF S1/4 OF LOTS 9-12
DESC AS FOLL: COM SW COR OF SECTION.

New River Farms, LLC (477.0 ac.)

00189-0-00000: 29 6S 20 E1/2 OF NW1/4 & THAT PORT OF NE1/4 LYING N OF SW
161ST ST. & NW1/4 OF SE1/4.

00190-0-00000: 29 6S 20 NW1/4 OF NW1/4

00191-0-00000: 29 6S 20 SW1/4 OF NW1/4 & SW1/4 EX: ANY PORTION LYING S OF
GR RD EX: R/W EX: PORTION LYING S OF GR RD EX: R/W

00193-0-00000: 30 6S 20 LOTS 1 2 3 S OF RIVER EX S1/4 OF LOT 1 & EX R/W & EX
BORROW PIT

00194-0-00000: 30 6S 20 S1/4 OF LOT 1 EX R/W & ALL OF LOT 12 EX: BORROW PIT
ESMT EX: COM INT N R/W CR-231 & E

00127-0-00200: 19 6S 20 N1/2 OF LOT 10 E OF NEW RIVER

New River Farms Properties, Inc. (451.0 ac.)

00127-0-00000: 19 6S 20 LOTS 1 2 3 11 12 S OF RIVER

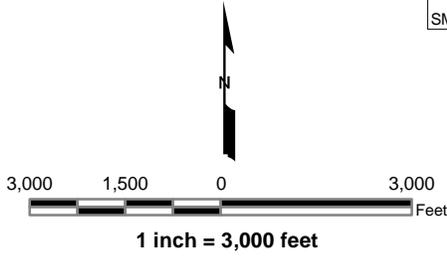
00128-0-00000: 20 6S 20 ALL S1/2 S OF RIVER EX SE1/4 OF SE1/4

Harold and Ruth Davis Trust (95.0 ac.)

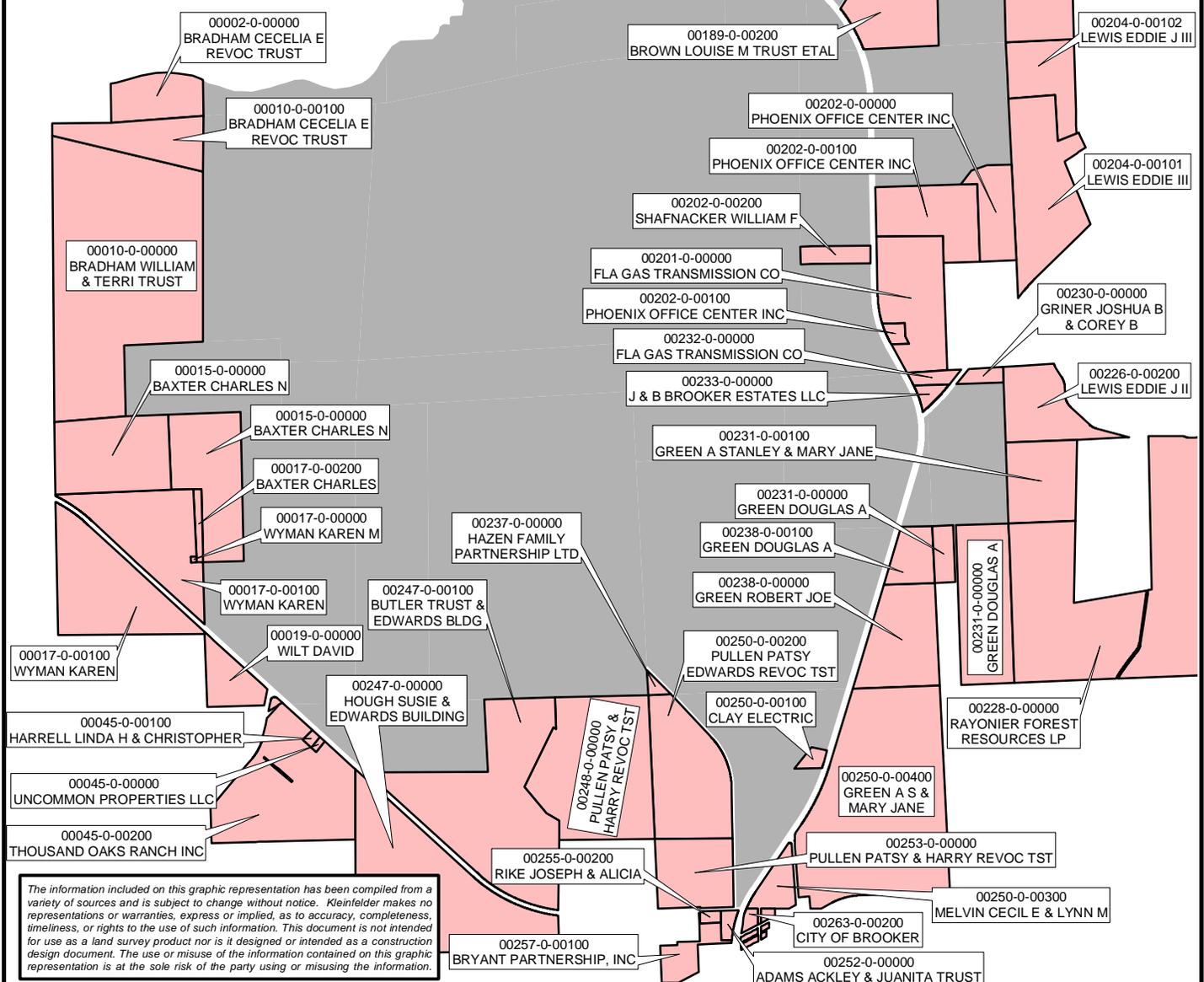
00191-0-00100: 29 6S 20 THAT PORT OF SW1/4 LYING S & W OF CR-231. ALSO
DESC AS: THAT PORT OF FOLL WITHIN THIS SEC.

00196-0-00100: 30 6S 20 THAT PORT OF LOTS 1 & 12 LYING S & W OF CR-231.
ALSO DESC AS THAT PORT OF FOLL IN THIS SEC.

Sections 25 & 36, Township 6 South, Range 19 East
 Sections 19, 20, 29, 30, 31 & 32, Township 6 South, Range 20 East
 Sections 1 & 12, Township 7 South, Range 19 East
 Sections 5, 6, 7 & 8, Township 7 South, Range 20 East



Legend
 [Grey Box] Project Area
 [Pink Box] Adjacent Property Owners



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

Document Path: \\mountdora\MOUNTDORA-DATA\GIS\CAD\HPS Enterprises\HPS II Bradford Co Phosphate Mine\03-0000-County_SUP\16-0420--HPS_Bradford_SUP-AdjProperty.mxd

PROJECT NO.	20163103.001A
DRAWN:	4/20/2016
DRAWN BY:	NL
CHECKED BY:	EJM
FILE NAME:	16-0420--HPS Bradford SUP-AdjProperty.mxd

Adjacent Property Owners Map

**HPS II Enterprises
 Mining Master Plan
 Bradford County, Florida**

EXHIBIT
C

Document Path: V:\mountain\MOUNTDORA-DATA\GIS\CAD\HPS Enterprises Inc\20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000 County SUP\16-0420--HPS Bradford SUP-BlackBear.mxd

Sections 25 & 36, Township 6 South, Range 19 East
Sections 19, 20, 29, 30, 31 & 32, Township 6 South, Range 20 East
Sections 1 & 12, Township 7 South, Range 19 East
Sections 5, 6, 7 & 8, Township 7 South, Range 20 East

Source: Florida Fish and Wildlife Conservation Commission

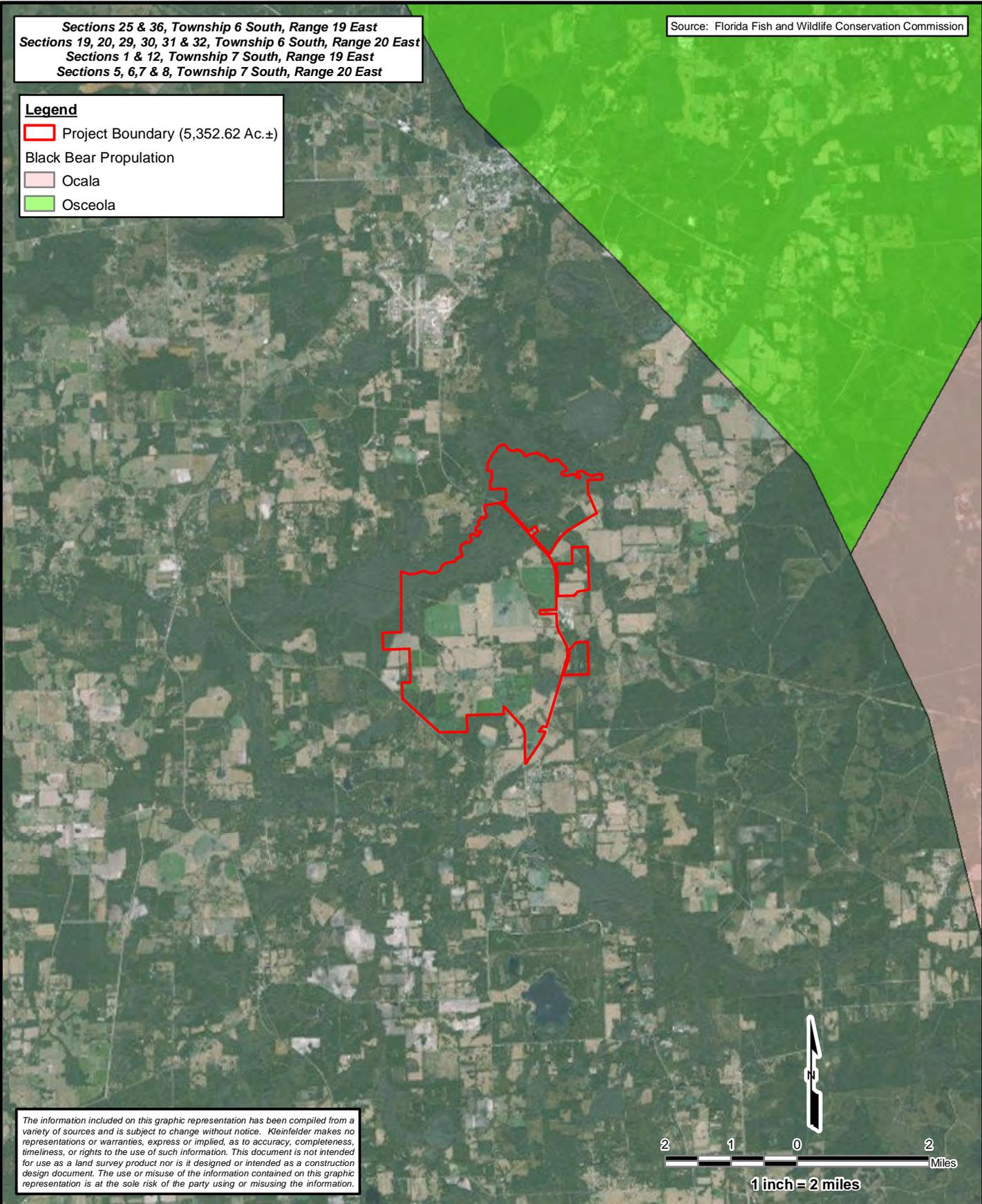
Legend

 Project Boundary (5,352.62 Ac.±)

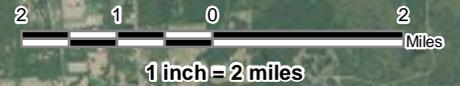
Black Bear Propulation

 Ocala

 Osceola



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.



PROJECT NO. 20163103.001A
DRAWN: 4/20/2016
DRAWN BY: NL
CHECKED BY: EJM
FILE NAME: 16-0420--HPS
Bradford SUP-BlackBear.mxd

Black Bear Utilization Map

HPS II Enterprises
Mining Master Plan
Bradford County, Florida

EXHIBIT

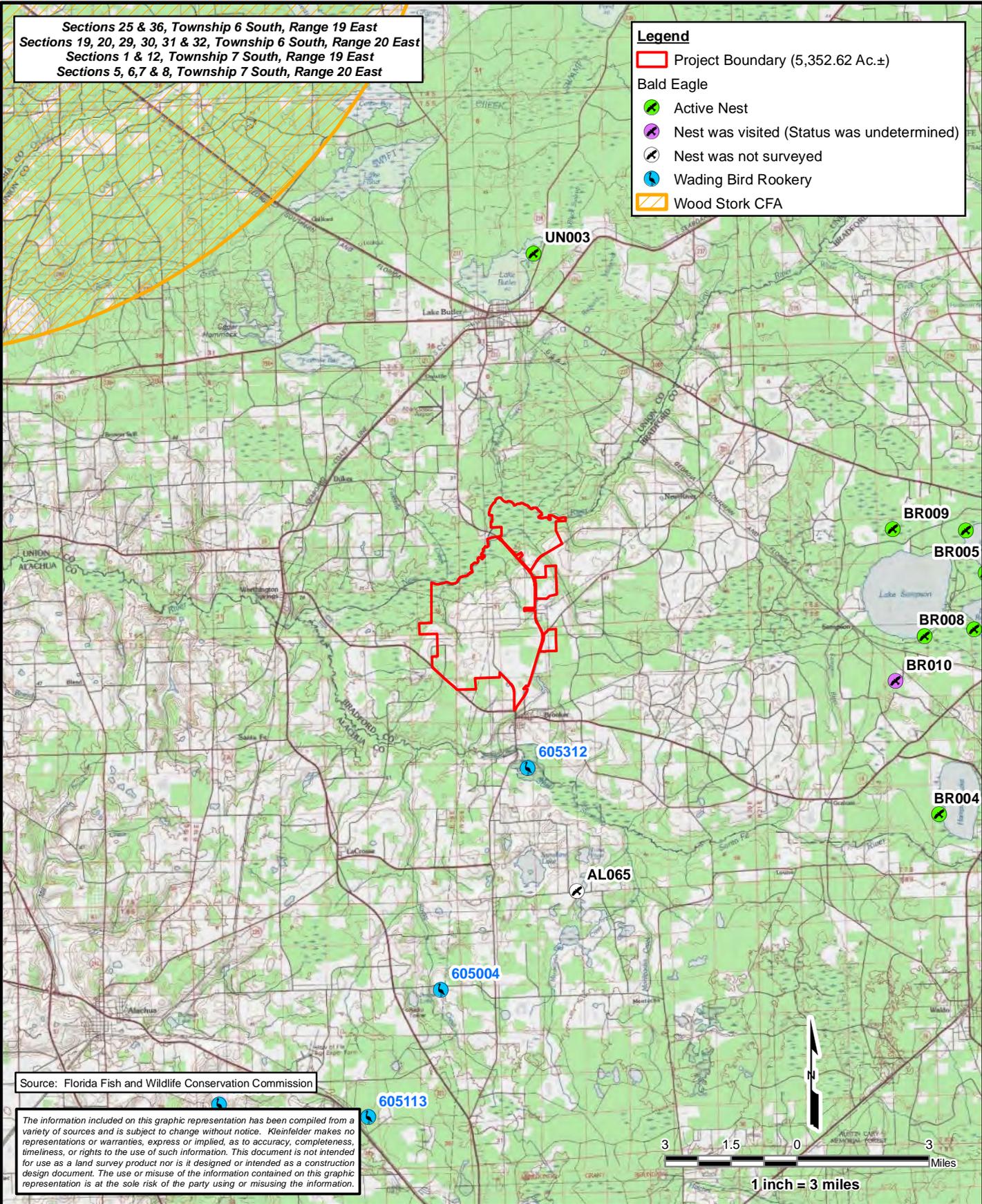
D

Document Path: \\mountain\MOUNTDORA-DATA\GIS\CADD\HPS Enterprises\HPS II Bradford Co Phosphate Mine\03-0000 County SUP\16-0420--HPS-Bradford SUP-AvianSPP.mxd

Sections 25 & 36, Township 6 South, Range 19 East
 Sections 19, 20, 29, 30, 31 & 32, Township 6 South, Range 20 East
 Sections 1 & 12, Township 7 South, Range 19 East
 Sections 5, 6, 7 & 8, Township 7 South, Range 20 East

Legend

- Project Boundary (5,352.62 Ac.±)
- Bald Eagle
 - Active Nest
 - Nest was visited (Status was undetermined)
 - Nest was not surveyed
 - Wading Bird Rookery
- Wood Stork CFA



Source: Florida Fish and Wildlife Conservation Commission

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

PROJECT NO.	20163103.001A
DRAWN:	4/20/2016
DRAWN BY:	NL
CHECKED BY:	EJM
FILE NAME:	16-0420--HPS Bradford SUP-AvianSPP.mxd

Avian Species Map

HPS II Enterprises
 Mining Master Plan
 Bradford County, Florida

EXHIBIT

E

**EXHIBIT F:
PRELIMINARY CULTURAL
RESOURCES REPORT**



Specializing in Archaeological/Historical Services
Members Register of Professional Archaeologists (RPA)

ACRA

May 15, 2015
106-15-01

Mr. Ed Murawski
Project Manager
Kleinfelder
3919 Riga Boulevard
Tampa, FL 33619

Re: Preliminary Cultural Resources Review, Union and Bradford Counties Project

Dear Ed:

As agreed, SouthArc has completed a preliminary review of the Union and Bradford County tracts to identify known archaeological or historical resources, as well as possible resources. The review was limited to a search of the Florida Master Site Files (FMSF) GIS database (FMSF 2015), a review of early 19th century land surveys (Coffee 1831), and a review of historic aerial photographs (USDA 1938, 1971). No effort was made to delineate levels of cultural resource sensitivity within the tracts, although it is obvious from the enclosed topographic quadrangle maps that the area along the New River has a high potential for sites.

Based on the FMSF database, there have been relatively few previous surveys within the project areas (see enclosed table). Most have been linear surveys for road, railroad and gas transmission line corridors. There were two large surveys in 1987 and 1988 led by a graduate student at the University of Florida. These two surveys relied on surface inspection of accessible tracts of land and informant information. The sites within the New River tracts were identified based on these two surveys (Johnson 1987; Johnson *et al.* 1988). The other surveys in the vicinity of the project tracts did not pass through the tracts, but they did identify a few archaeological sites and historic structures in the vicinity of the tracts.

The majority of the sites identified within the New River tracts are listed as prehistoric lithic artifact scatters (see table). Three sites (8BF62, 8BF64 and 8BF69) were listed as containing historic artifacts, primarily from the late 19th to early 20th centuries. These sites are probably related to homesteads present in the area. None of the identified sites have been evaluated for eligibility to the *National Register of Historic Places*, primarily because little information was recorded for the sites (FMSF 2015).

Mr. Ed Murawski
May 15, 2015
106-15-01, page 2

One site within the New River tracts is of concern. 8BF72, the SW 10th Avenue Historic Cemetery (Sheet 4), was identified as a ca. 1860 military cemetery (FMSF 2015). The archaeologist who recorded the cemetery was unable to find it, but listed it as “known to exist,” probably based on informant reports. He speculated that it was in “an overgrown patch of underbrush and trees within a pasture above the New River and near SW 10th Avenue,” and suggested that the tombstones may have been removed (Johnson 1987). The 1938 aerial photographs do show a clump of large trees in a pasture in the vicinity of the identified cemetery location (USDA 1938). Current aerial photographs show the same spot as a stand of oaks and *Carya* sp. in a pasture. There are three possible explanations as to why it was identified as a military cemetery: (1) it contains burials of Second Seminole War soldiers or veterans; (2) it contains burials related to the Battle of Olustee which took place in North Florida; or (3) most likely, it contains the grave of a Civil War veteran. The 1938 aerial (USDA 1938) also shows a probable homestead near the recorded location of the cemetery (Sheet 4), suggesting it may have been a family plot with a veteran’s grave marker. In-depth research and interviews with knowledgeable local residents would be required to determine if this cemetery still exists, and where exactly it is located.

In addition to the sites identified within the project tracts, there are numerous cultural resources identified by previous surveys within one mile of the tracts, particularly the New River tracts and the Pritchett Properties. These sites demonstrate the potential for additional cultural resources within the project tracts.

A review of the 1938 aerial photographs identified a number of locations for possible historic structures, primarily homesteads (USDA 1938). All structures over 50 years in age would need to be recorded for a cultural resource survey. In addition, these locations could contain archaeological data related to the homesteads or structures. The Atlantic Coast Railroad would probably be classified as historic and would also have to be recorded, since it forms a boundary of the Florida Hauling tract (Sheet 2). There may be additional historic roads adjacent to the various tracts.

Since there are previously identified cultural resources within and near the various tracts in this project, it is highly probable that additional sites exist within the tracts, particularly on uplands adjacent to potential water sources, and in the vicinity of the probable historic sites identified from the 1938 aerials. In addition, since limited information was recorded on the sites within the New River tracts, all of these sites would have to be tested to evaluate their potential significance and eligibility for the *National Register*.

Mr. Ed Murawski
May 15, 2015
106-15-01, page 3

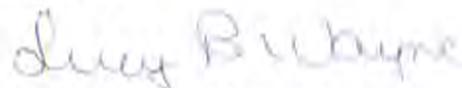
Depending on the nature of the permits required for the proposed project, a cultural resource survey and assessment will probably be required to satisfy the permitting agencies. Potential agencies involved include the Water Management District, the Department of Environmental Protection and the Corps of Engineers. Should a Corps permit be required, it is probable that the Corps will consult with the recognized Native American Tribal Historic Preservation Offices (THPOs) to determine whether or not they have any concerns about the project. The Florida State Historic Preservation Office (SHPO) review will satisfy the state agencies.

Cultural resource surveys of the tracts would be stratified based on the archaeologists' determination of site potential. For example, uplands close to permanent water sources and areas of known historic activity will be classified as high potential. Surveys would require subsurface testing with test intervals based on the stratification. Historic research will also be needed to identify potential historic properties within the tracts. It is possible that the surveys can be broken up into phases based on the development schedule for the project, as long as sufficient lead time is allowed for completion of the surveys, review by the SHPO (and possibly the THPOs), and any mitigation work which may be required for resources eligible for the *National Register*.

The following pages consist of a table showing previous surveys in the project areas, maps of the recorded and potential cultural resource locations, and a list of the references cited.

Please feel free to contact either me or Martin if you have any questions or need additional information.

Sincerely,



Lucy B. Wayne, Ph.D., RPA
Vice President

enc.

REFERENCES CITED

Coffee, Joshua A.

- 1831 Survey maps, Township 6 South, Range 19 East, Township 6 South, Range 20 East, Township 7 South, Range 19 East, Township 7 South, Range 20 East. LABINS web site, Florida Department of Environmental Protection, Tallahassee.

DeLorme Mapping Co.

- 2004 *TopoUsa 5.0*. Freeport, ME.

Florida Master Site File (FMSF)

- 2015 Township, Range, Section search for surveys and recorded cultural resources. Florida Division of Historical Resources, Tallahassee.

Johnson, Kenneth W.

- 1987 The Search for Aguacaleyquen and Cali: Archaeological Survey of Portions of Alachua, Bradford, Citrus, Clay, Columbia, Marion, Sumter and Union Counties, Florida. *Miscellaneous Project Report* Number 33, Department of Anthropology, The Florida State Museum, University of Florida, Gainesville.

Johnson, Kenneth W., Bruce C. Nelson and Keith A. Terry

- 1988 The Search for Early Spanish-Indian Sites in North Florida: Archaeological Survey of Portions of Columbia, Suwannee, Union and Adjacent Counties, Season 11. *Miscellaneous Project Report* Number 38, Department of Anthropology, Florida Museum of Natural History, University of Florida, Gainesville.

U. S. Department of Agriculture (USDA)

- 1938 Aerial photographs, Union and Bradford Counties, Florida. On file, Map Library, University of Florida, Gainesville.

- 1971 Aerial photographs, Union and Bradford Counties, Florida. Florida Department of Transportation. Boundaries delineated by Kleinfelder, Jacksonville, FL.

U. S. Geological Survey (USGS)

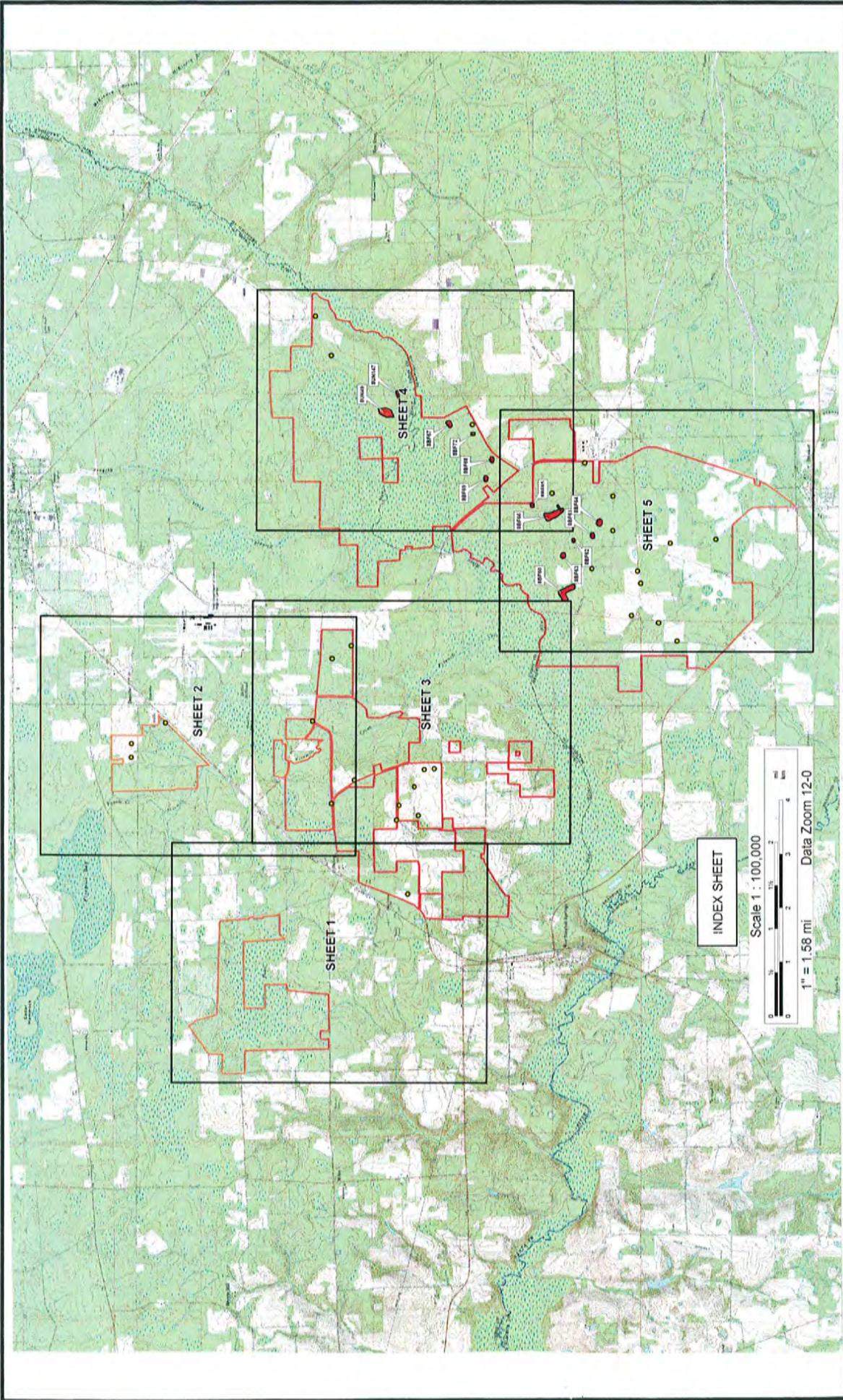
- 1966 Brooker, Fla. 7.5-minute topographic quadrangle map.

- 1976a Worthington Springs, Fla. 7.5-minute topographic quadrangle map.

- 1976b Lulu, Fla. 7.5-minute topographic quadrangle map.

Previous Surveys and Recorded Cultural Resources, Union and Bradford Counties Project, Florida

<u>Sheet #</u>	<u>Survey #</u>	<u>Date</u>	<u>Survey Project</u>	<u>*NRHP Status</u>
1, 2, 3	3577	1993	*Proposed GRU Rail Line, Alachua and Union Counties	not evaluated
1	6607	2001	*Proposed borrow pit, Union County	not evaluated
1	6852	2001	*Proposed borrow pit, Union County	not evaluated
1	10619	2004	Cellular tower, Worthington Springs, Union County	not evaluated
2	2868	1991	SR 238 survey, Union County	not evaluated
4 and 5	1410	1987	Search for Aguacaleyquen and Cali, multiple counties	not evaluated
4 and 5	2137	1988	Search for Spanish-Indian sites in North Florida	not evaluated
4 and 5	6295	2000	Florida Gas Transmission Line, Bradford County	not evaluated
4	18070	2010	Palatka to Lake Butler Trail, Union County	not evaluated
5	5699	1999	Florida Gas Transmission Line, Bradford County	not evaluated
5	6167	2000	Florida Gas Transmission Line, Bradford County	not evaluated
5	13862	2006	Florida Gas Transmission Line, Bradford County	not evaluated
			* Completed by SouthArc, Inc.	
<u>Sheet #</u>	<u>Site #</u>		<u>Site Name and Type of Site</u>	<u>*NRHP Status</u>
4	8UN49		Whitehead 1--lithic scatter	not evaluated
4	8UN147		Whitehead 4--lithic scatter	not evaluated
4	8BF60		Boomerang--lithic scatter	not evaluated
4	8BF61		Horses--ceramic and lithic scatter	not evaluated
4	8BF62		No Horses--late 19th/early 20th century artifacts	not evaluated
4	8BF63		Corner Field--lithic scatter	not evaluated
4	8BF64		No Tung--19th century refuse and chert flakes	not evaluated
4 and 5	8BF65		Bubba's Rye Field--lithic scatter	not evaluated
4 and 5	8BF66		New River--large lithic/ceramic scatter	not evaluated
5	8BF67		Trail to Terrace--lithic scatter	not evaluated
5	8BF68		Tenth Avenue Cornfield--lithic scatter	not evaluated
5	8BF69		Corn Sprouts--historic and lithic artifact scatter	not evaluated
5	8BF72		SW 10th Avenue Historic Cemetery--ca. 1860	possibly destroyed
			Source: FMSF 2015	

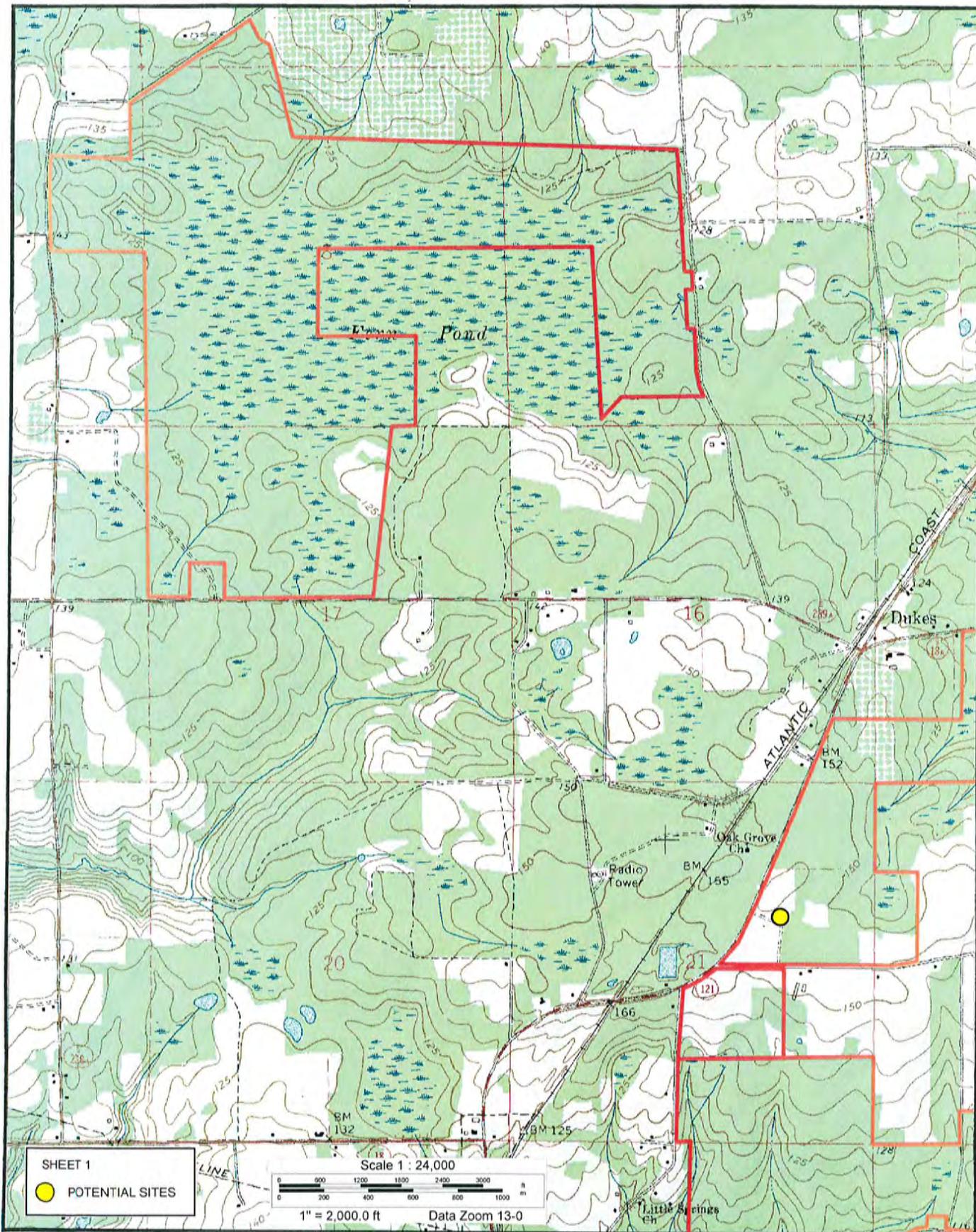


INDEX SHEET. TOPOGRAPHIC MAPS, PROPOSED BRADFORD AND UNION COUNTIES MINE,
 FLORIDA

SOURCE: DELORME 2004

SouthArc, Inc.

Archaeological and
 Historical Services

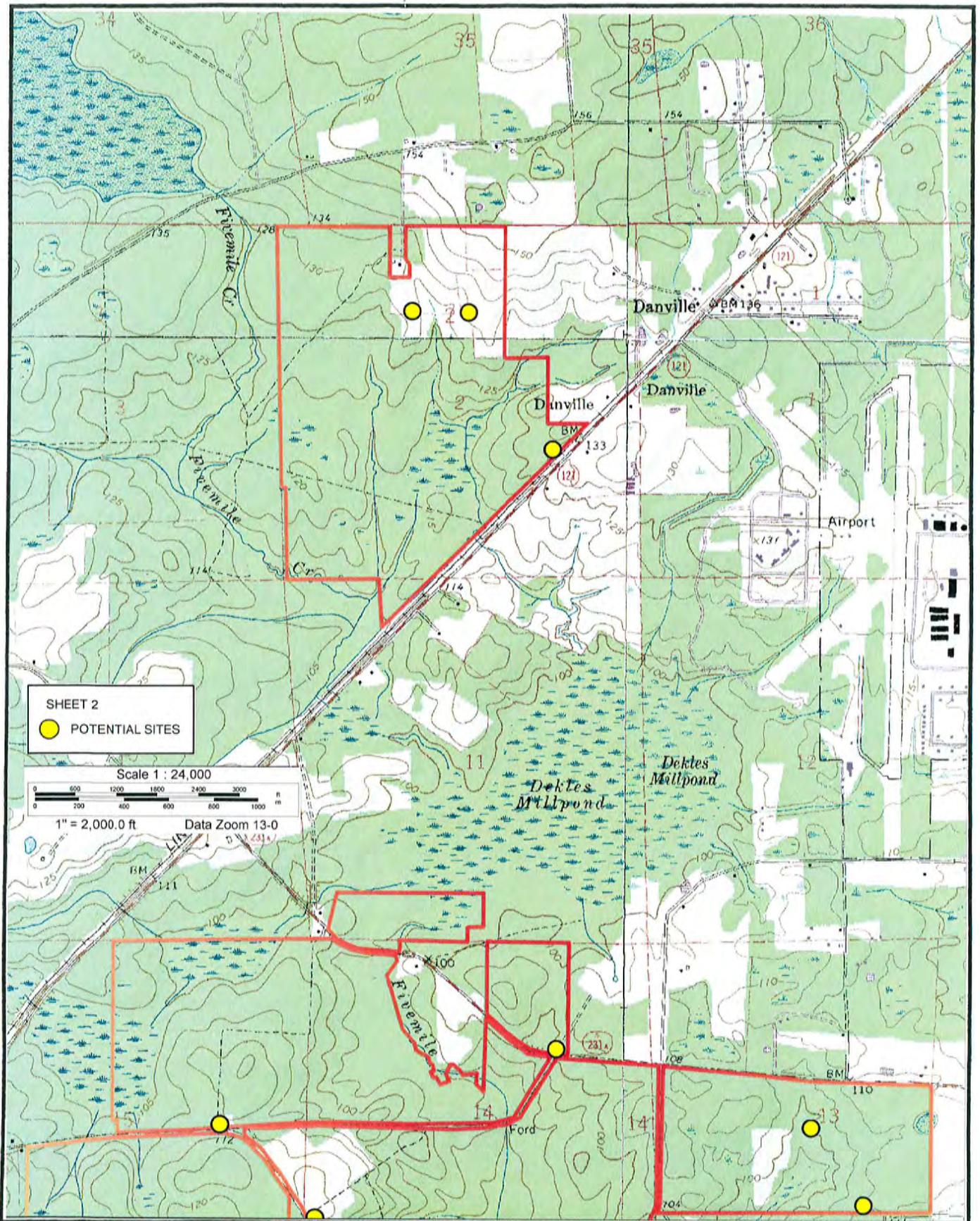


SHEET 1. SHADD AND PRITCHETT PROPERTIES,
UNION COUNTY, FLORIDA

SOURCES: USGS 1976a; FMSF 2015; USDA 1938, 1971;
DELORME 2004

SouthArc, Inc.

Archaeological and
Historical Services

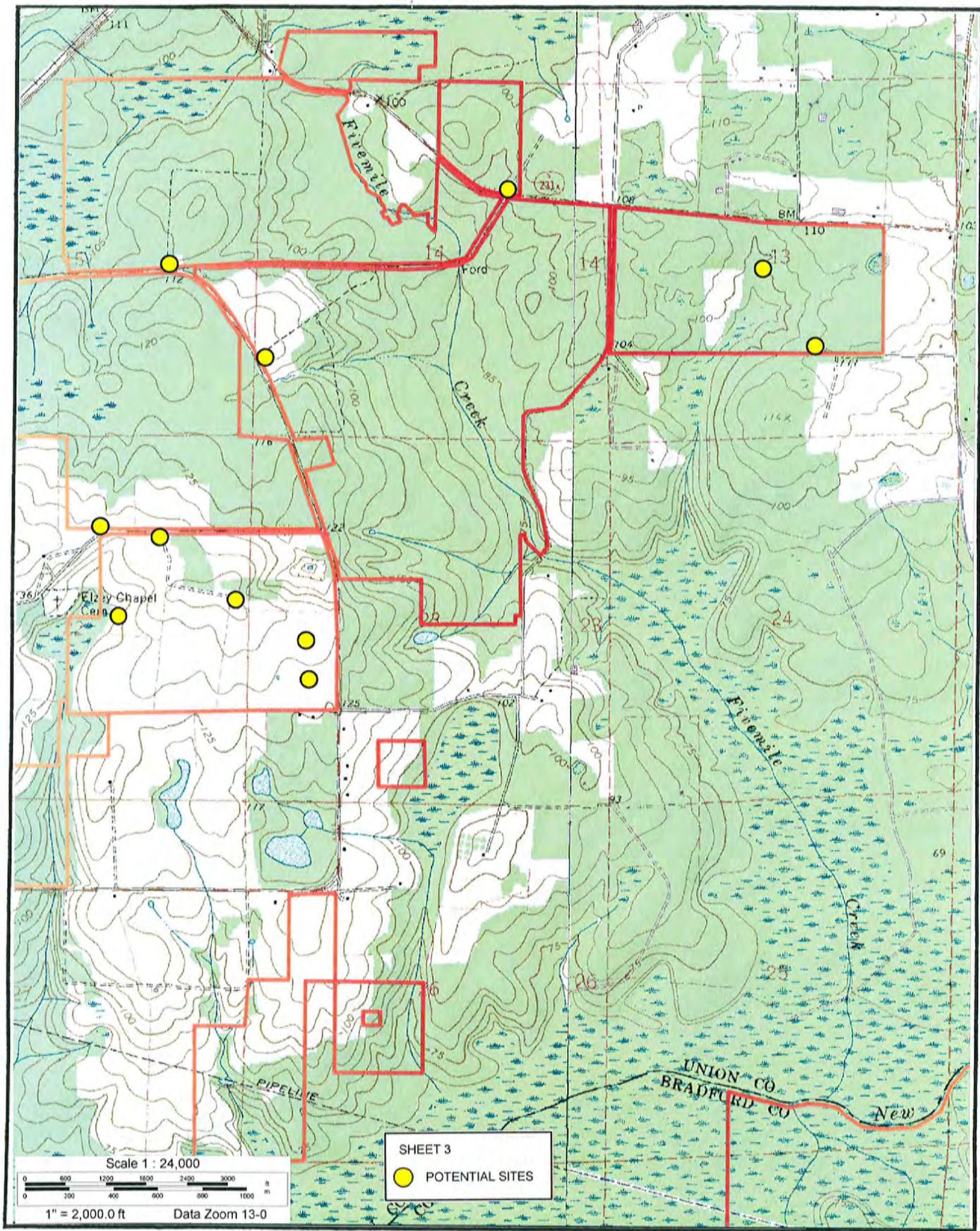


SHEET 2. FLORIDA HAULING AND PRITCHETT PROPERTIES, UNION COUNTY, FLORIDA

SOURCES: USGS 1966, 1976a, b; FMSF 2015; USDA 1938, 1971; DELORME 2004

SouthArc, Inc.

Archaeological and
 Historical Services

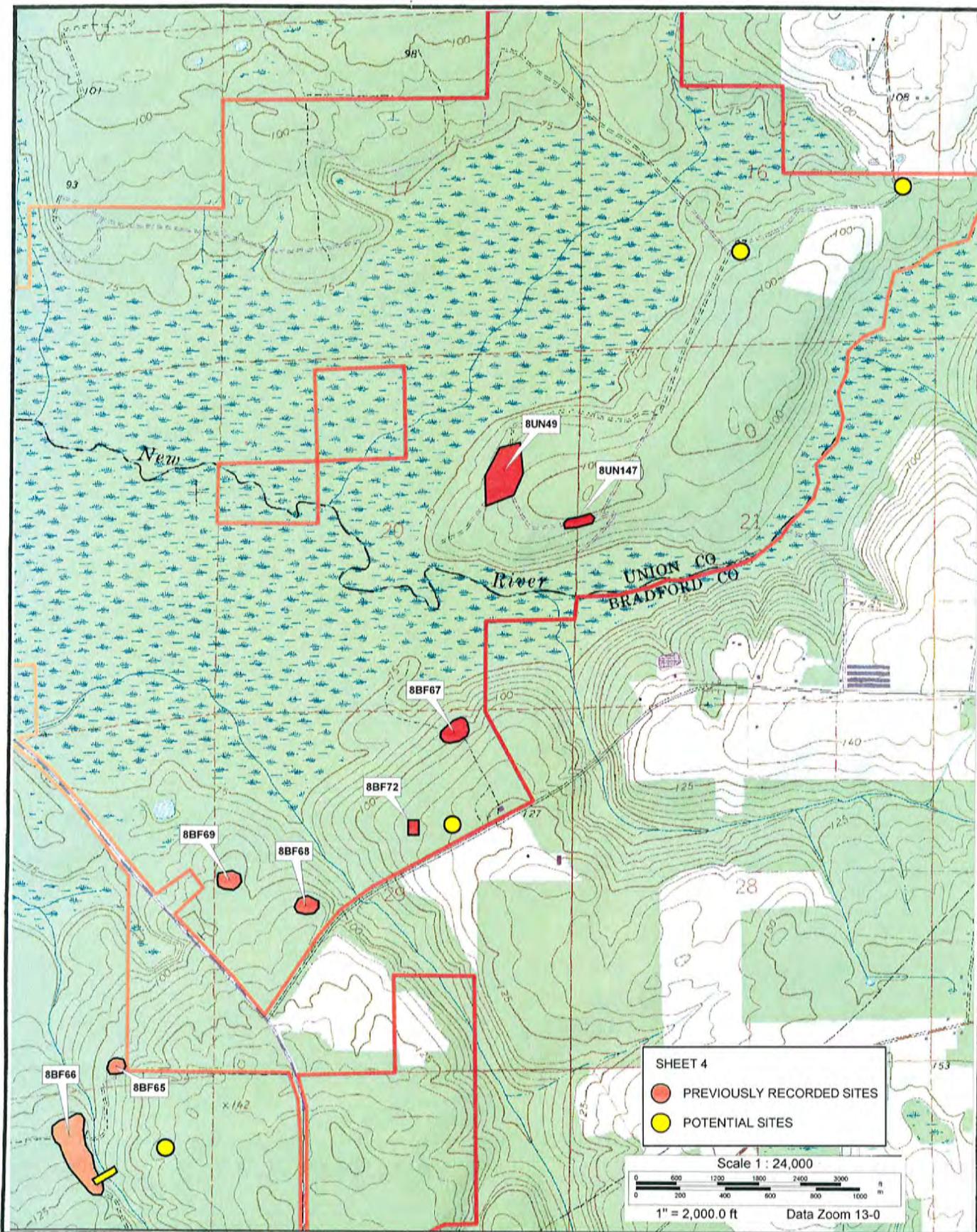


SHEET 3. PRITCHETT AND NEW RIVER PROPERTIES,
UNION AND BRADFORD COUNTIES, FLORIDA

SOURCES: USGS 1966, 1976a; FMSF 2015; USDA 1938, 1971;
DELORME 2004

SouthArc, Inc.

Archaeological and
Historical Services

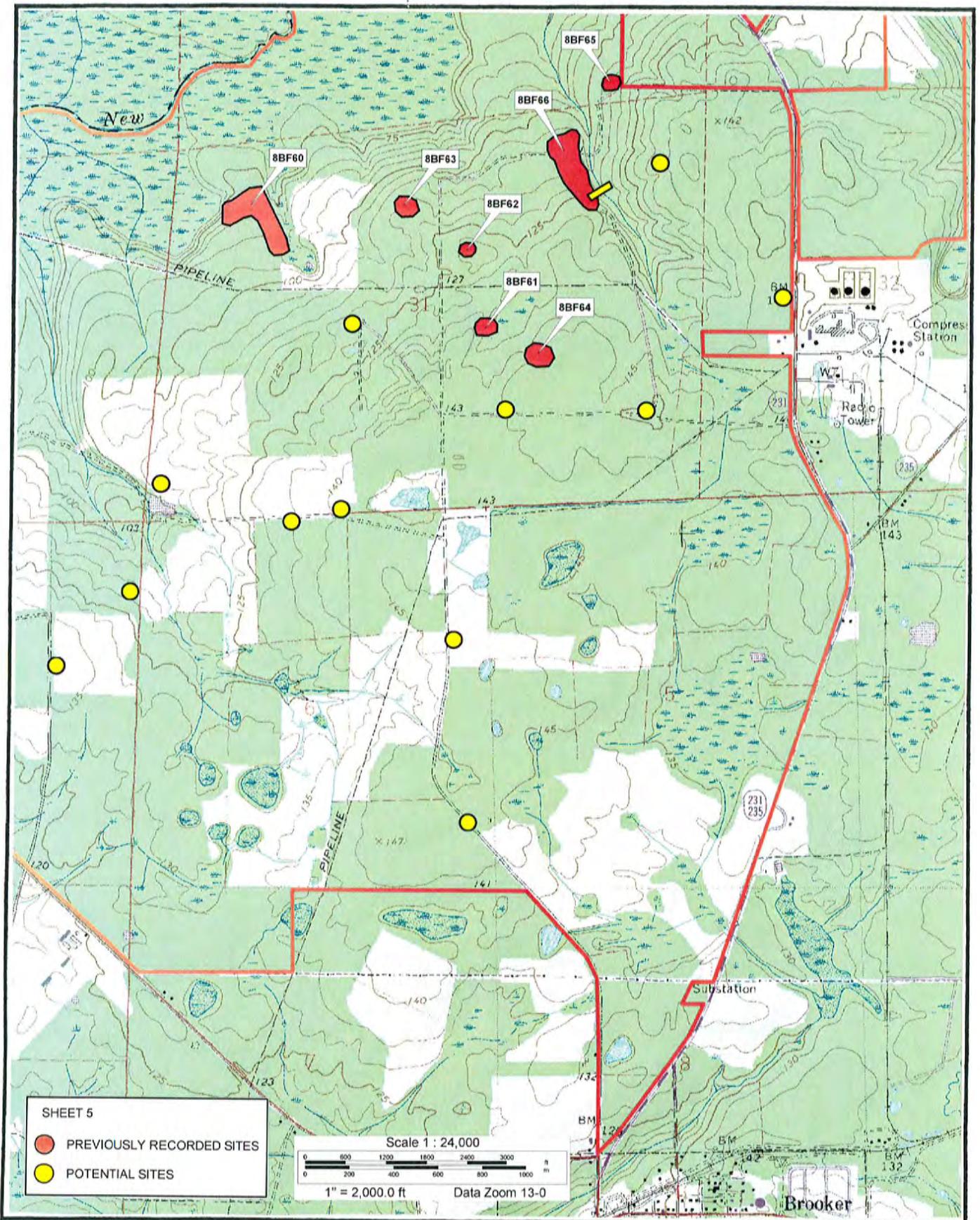


SHEET 4. NEW RIVER PROPERTIES, UNION AND BRADFORD COUNTIES, FLORIDA

SOURCES: USGS 1966, 1976a; FMSF 2015; USDA 1938, 1971; DELORME 2004

SouthArc, Inc.

Archaeological and Historical Services



SHEET 5. NEW RIVER PROPERTIES, BRADFORD AND UNION COUNTIES, FLORIDA

SOURCES: USGS 1966, 1976a; FMSF 2015; USDA 1938, 1971; DELORME 2004

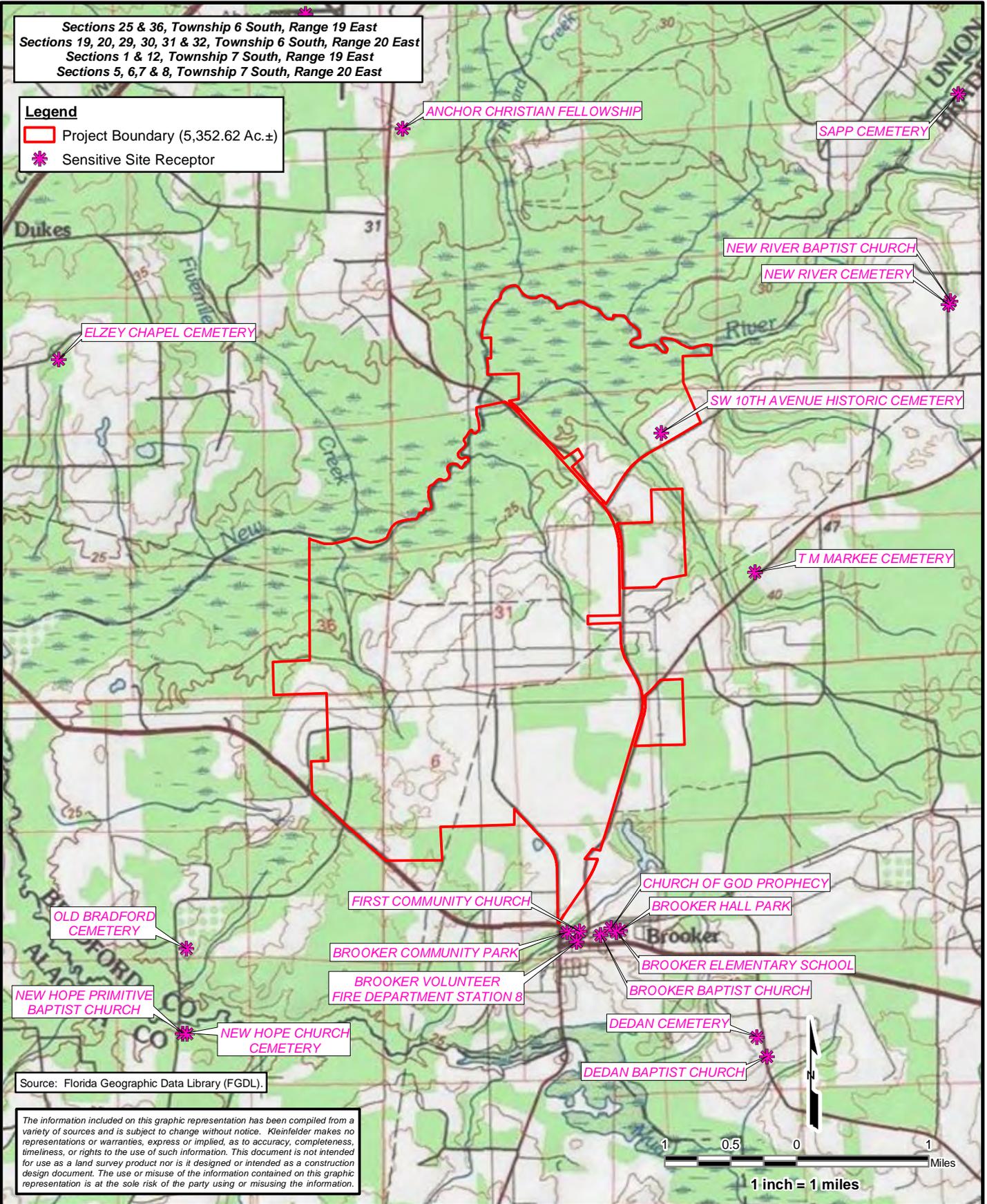
SouthArc, Inc.

Archaeological and
Historical Services

Sections 25 & 36, Township 6 South, Range 19 East
 Sections 19, 20, 29, 30, 31 & 32, Township 6 South, Range 20 East
 Sections 1 & 12, Township 7 South, Range 19 East
 Sections 5, 6, 7 & 8, Township 7 South, Range 20 East

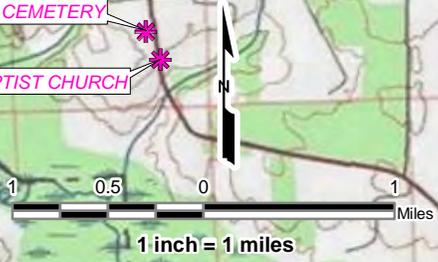
Legend

- Project Boundary (5,352.62 Ac.±)
- ✱ Sensitive Site Receptor



Source: Florida Geographic Data Library (FGDL).

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.



Document Path: V:\mountain\MOUNTDORA-DATA\GIS\CADD\HPS Enterprises-Incl20163103.001A_HPS Enterprises-HPS II Bradford Co Phosphate Mine\03-0000 County SUP\16-0420-HPS Bradford SUP-SensitiveSite.mxd

PROJECT NO.	20163103.001A
DRAWN:	4/20/2016
DRAWN BY:	NL
CHECKED BY:	EJM
FILE NAME:	16-0420--HPS Bradford SUP-SensitiveSite.mxd

Sensitive Site Receptors

**HPS II Enterprises
Mining Master Plan
Bradford County, Florida**

EXHIBIT	G
---------	----------